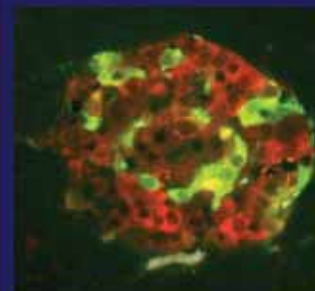
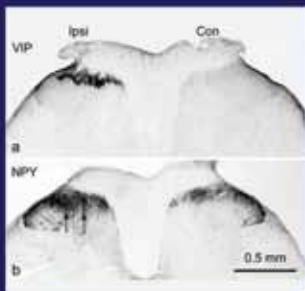
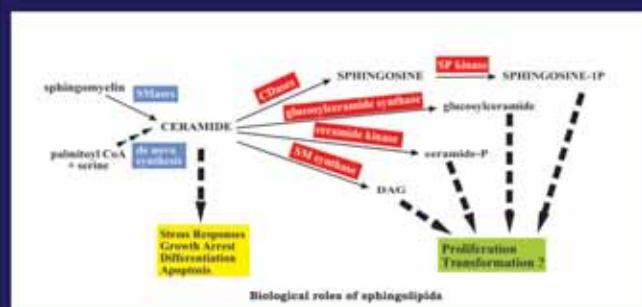
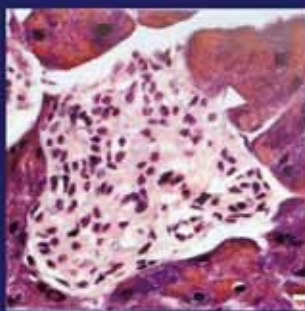




United Arab Emirates University
Faculty of Medicine and Health Sciences

Research Publications 2003 & Research Profiles



Office of the Associate Dean of Research



United Arab Emirates University
Faculty of Medicine and Health Sciences

Research Publications 2003 & Research Profiles

Office of the Associate Dean of Research

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Preface

This is the 13th edition of our annual directory of research publications achieved in 2003 from the Faculty of Medicine & Health Sciences. This directory is a continuation of a series of annual publications and bears testimony to the enduring commitment and success of our joint research endeavours.

As usual, every year, we also try to upgrade the quality of this directory and this year is no exception. We have continued with the inclusion of the departmental research profile, as most readers seemed to appreciate this expansion. We have also continued with hosting the Research Priority Groups reports.

The Faculty also hosted the successful 2nd Scientific Conference for Medical Students in the GCC Countries, and a few pages have been included in this booklet to commemorate this special event.

Finally, you may remember that the layout of the previous edition had changed significantly from previous editions. With the continuing help of Mrs Ivanna Lizarriturri and Ms Shaikha Al Mazrouei, we have continued on this path. Based on our experience and some comments, several improvements were added to the presentation of the booklet.

On behalf of all those who have contributed to this directory, we wish you new exciting achievements in our research environment.

Professor Wim Lammers
Editor

Professor M Lukic,
Associate Dean for Research

Dean's Message

Dear Colleagues,

FMHS researchers have enjoyed another very successful year. Congratulations to the academic staff whose publications are listed in this report, together with colleagues, technical staff, secretaries, students and volunteers whose efforts have contributed so much to these statistics. It is a real pleasure to see so many of our students participate in research studies and to hear directly from them of their very real appreciation of the faculty and technical staff who have made them welcome in their laboratories and are keen to share their time and expertise with them. We are blessed also with a number of very committed volunteers whose exceptional knowledge and skills have contributed enormously to the successes and productivity enjoyed by their laboratories. Thank you all!

There can be no question that overall progress in the research sector has been greatly assisted by the wise leadership and dedication of the UAEU Senior Administration. In particular, we are indebted to Her Excellency the Deputy Vice-Chancellor for Research Affairs, Dr. Maitha Al Shamsi [Position title has been changed to Assistant Provost for Research, as from 1st September 2004 by virtue of Chancellor's decree number 117/2004 in connection with the Organizational Chart of the University] and her Advisor, Professor Gharib Aly, who continuously enhance the vision and opportunities in the sector and who work tirelessly to improve both the amount and the quality of research conducted at United Arab Emirates University. FMHS has benefited through successful competition for Individual Grants, Interdisciplinary Grants, UAEU-Sultan Qaboos collaborative research award, GCC collaborative research award, the initiation of a project with Research Triangle International (RTI) and other private sector opportunities.

Activities in Research Priority Groups have been variable, reflecting very much the maturity of each group and the Group's collective research strengths. It is hoped that some projects that stood little chance of success through individual efforts can benefit from the collective wisdom, energy and efforts of the Group. The lack of cohesive systems for data collection and medical informatics has delayed the development of needed registries in several key health areas such as trauma and road traffic accidents, cancer, diabetes, heart disease, congenital disorders, all of them major contributors to morbidity and mortality in the Emirates. For the patchy developments that have occurred already we are truly grateful for the pioneering efforts of those involved. As a Faculty we will renew our commitment to enhancing existing frameworks to true national information systems that provide the basis for further high quality research and innovations in diagnosis, prevention and treatment. We must not limit our efforts in these crucial aspects of Emirati life to purely epidemiological or biomedical research and we should increase our involvement with other Faculties and Universities, the private sector and opinion leaders in society. The Traffic Safety project with the Faculty of Engineering and FMHS working with General Motors (Holden) and Monash University of Australia is an example of what can be achieved.

The 2003-04 academic year was highlighted by several research conferences, but none with the

uniqueness and energy of the Second GCC Medical Students Scientific Conference that attracted over 600 registrants from 34 countries to Al Ain in January 2004. Our entire student body, ably led by Abdulkareem Al Olama and abetted mainly by Dr. Chris Howarth of Physiology, deserve great kudos for this outstanding achievement!

It has been a personal privilege to act as FMHS Coordinator of the Terry Fox Cancer Fund activities during the past year. Words fail to describe adequately my admiration for the literal army of volunteers led and encouraged by the Canadian Ambassador to UAE, the Canadian Consul-General in Dubai, leadership and members of the Canadian Business Council, school teachers and various group leaders in Abu Dhabi and Dubai where the fund-raising runs are organised. The only thing missing is us, from Al Ain! Please consider spending a few hours in February in either city as a Terry Fox Run participant and donating some dirhams to boost the half million AED raised for cancer treatment research in the UAE.

December 2004 will be a time to celebrate another showcase of United Arab Emirate Research achievement. The Sheikh Hamdan Awards Ceremony will recognise the work of outstanding international and regional investigators in selected fields and will announce the 2004-2006 Sheikh Hamdan Research Grant recipients in the setting of a splendid Research Conference at which Sheikh Hamdan Awardees and other notables will contribute. UAEU and FMHS have cause to be grateful for the vision and generosity of His Highness Sheikh Hamdan Bin Rashid Al Maktoum. We are enabled to attract better scientists and their work can be supported in a manner that would certainly not be possible otherwise.

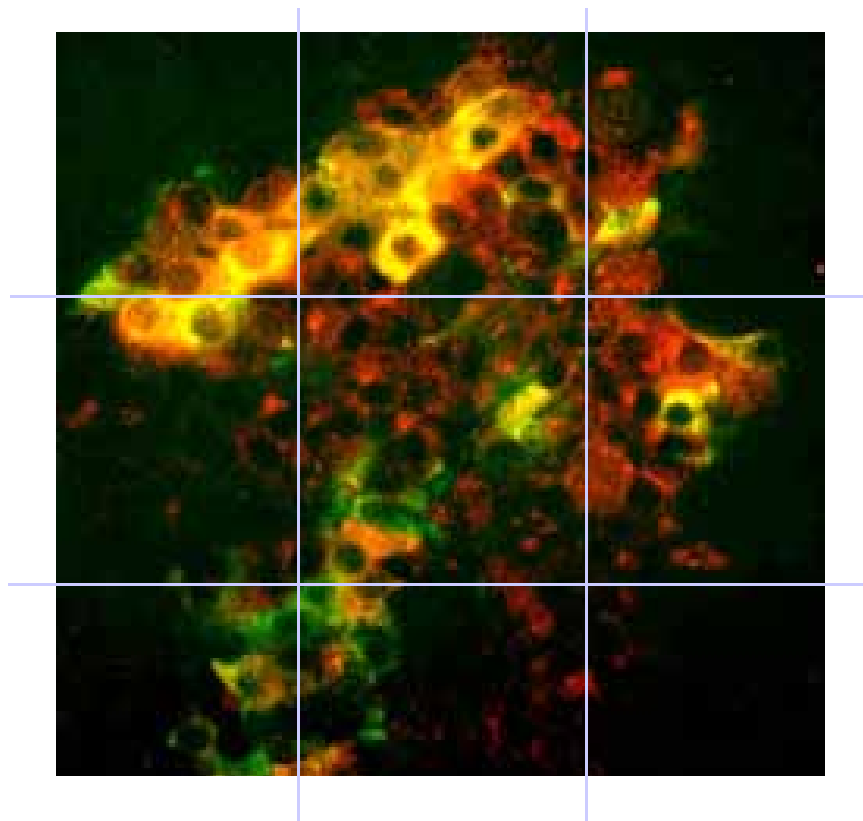
Returning to more pedestrian internal matters, I have urged greater opportunity for recipients of FMHS and UAE individual grants and for faculty qualifying for conference leave to present work abroad to be able to tell the rest of us about their work or the impending presentations. Effective the 2004-05 academic year, the frequency of research seminars will increase to better profile these successes, to improve the visibility of some Research Priority Groups and hopefully to stimulate ideas that will enhance current work or introduce entirely novel questions and approaches. Undoubtedly we will also benefit from sharing the collective knowledge and experience of recent leadership and new faculty.

At the FMHS 2004 Awards Banquet we had the privilege of recognising a number of individuals and groups whose contributions to teaching, research and service went well beyond normal expectations. I used the term "Big Shoes Award" as a metaphor for the appreciation of an individual whose shoes would be extremely difficult to fill should that person not occupy his or her current role within our Faculty. Many of you spoke to me privately of your delight that Mio Lukic was recognised for his leadership and personal contributions to Medical Microbiology and the Research Dean-ship. Mio and his team deserve our sincere appreciation for another successful year. Our appreciation goes also to Wim Lammers for his efforts in collecting, editing and presenting this Report.

Here's to ongoing successes in the new academic year!

*George Carruthers,
Dean.*

Research Publications by Department



Department of Anatomy ---

Prof G. Buzzell	Professor, Chairman	Ms A Ali	Technician
Prof L Garey	Professor	Mr S Tariq	Technician (EM)
Prof R Padmanabhan	Professor	Mr A Gbewonyo	Technician (EM)
Prof E Adeghate	Professor	Mr S Ponery	Technician
Dr E Mensah-Brown	Associate Professor	Mr W Wanniarachi	Technician (DR)
Dr S Shehab	Associate Professor	Mr M Madathil	Technician
Dr S Karam	Associate Professor	Ms L Ravindranathan	Secretary
		Mr M Hussain	Administrative Assistant
		Mr TV Basheer	Office Assistant

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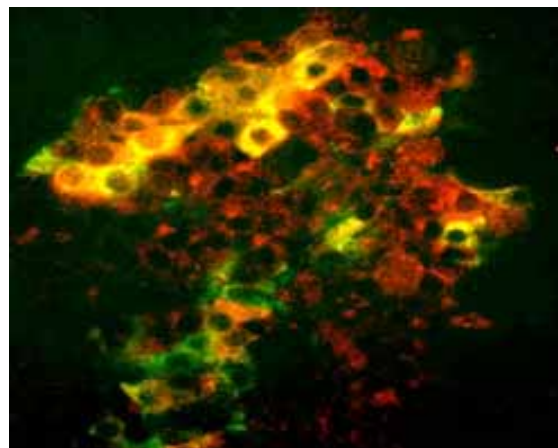
RESEARCH PROFILE

The Department of Anatomy pursues several lines of research in a variety of disciplines. We show considerable strengths in the fields of neurobiology, the biology of glands, cell renewal, and teratology.

Dr Eric Mensah-Brown has collaborative projects with Prof L Garey: Comparative neuroanatomy of the superior colliculus of the one-humped camel: Role of neuropeptides; with Prof M Lukic, Mr A Shahin and L Garey: Role of microglia in the clinical course of experimental allergic encephalomyelitis; and with Prof J Morrison: Histological and neurochemical studies on an animal model of type II diabetes.

Prof Ernest Adeghate has as his major research interest the effect of pancreas transplantation on the metabolic parameters in experimental diabetes. He also examines the role of neuropeptides on insulin and glucagon secretion from the pancreas, especially in diabetic condition. Recent results from his laboratory showed that the number of calcitonin-gene related peptide (CGRP) immunoreactive cells changes with the onset of diabetes mellitus. CGRP also co-localises with somatostatin in

the pancreas of normal and diabetic rats. In addition, CGRP stimulates insulin release from pancreatic tissue fragments. This observation showed that CGRP may play a role in the modulation of insulin release from the pancreas.

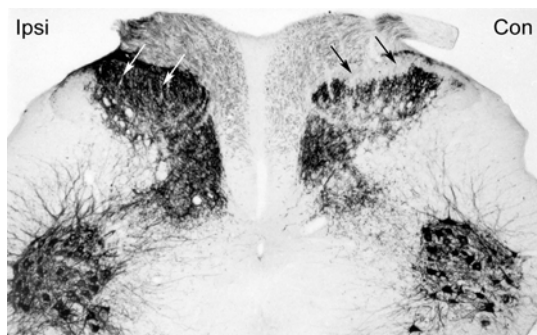


Calcitonin-gene-related peptide (CGRP) immunoreactive cells (red) and somatostatin-positive cells (green) in the pancreatic islet of diabetic rat. Note that some cells (orange-yellow) contain both CGRP and somatostatin. X400.

Prof Laurence Garey continued his studies related to neuroscience. With Dr. Eric Mensah-Brown, he is studying the distribution of neurotransmitters and neuropeptides in the superior colliculus of the camel (*Camelus dromedarius*). With Dr. Mensah-

Brown and Prof. Miodrag Lukic, he is investigating the role of neuroglia in experimental allergic encephalomyelitis, a model of multiple sclerosis. They are investigating the relationships between microglia and astrocytes in spinal cord of treated rats. In addition, Prof. Garey has an ongoing collaborative relationship with Dr. Wei-Yi Ong, National University of Singapore, studying neuronal cell death in response to increased astrocytic cytoplasmic phospholipase A₂ and the expression of GABA-transporters in the primate brain. Another ongoing research collaboration of Prof. Garey is with Dr. Steven Hirsch, Imperial College, London, as part of the Charing Cross Prospective Schizophrenia Study of the brains of chronic schizophrenics. Finally, Prof Garey has begun a study of ancient DNA from neolithic burial sites in the UAE. This study and the superior colliculus one are supported from grants by the Al Ain chapter of the Emirates Natural History Group.

Dr Safa Shehab studies the reorganisation of the neuronal circuitry in the dorsal horn of the spinal cord after peripheral nerve section.



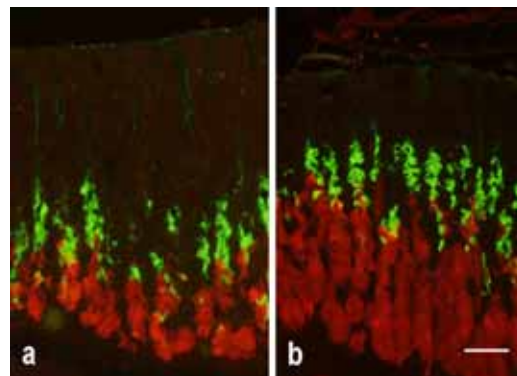
Transverse section of the 4th lumbar spinal segment stained for cholera toxin subunit B (CTb) of a rat which had undergone unilateral sciatic nerve section 2 weeks previously, followed by injection of CTb into both ipsilateral (Ipsi) and contralateral (Con) sciatic nerves. Note the lack of CTb labelling in lamina II of the control side (black arrows), while this region is heavily labelled on the ipsilateral side (white arrows). This demonstrates the increase of CTb uptake by the injured peripheral nerve.

His findings do not support the notion that axotomy causes sprouting of injured primary afferents in the dorsal horn. In addition, he has shown that primary afferents of intact nerves do not sprout in the dorsal

horn of the spinal cord in response to the injury of neighbouring nerves. He has also characterised the distribution of neuropeptides in the spinal cord and the sensory neurons of camels with special reference to pain pathway and begun to investigate the role of the subthalamic nucleus in controlling epileptic seizures using an animal model of epilepsy.

Current research in **Prof R Padmanabhan's** laboratory focuses on pathogenetic mechanisms of craniofacial malformations and neural tube defects. Results of recent studies on preventive effects of folic acid on NTD indicate that moderate but repeated doses of folic acid over an extended period during organogenesis maintains an elevated plasma folate concentration in the mother and provides greater protection than single acute doses against valproic acid (VPA) induced exencephaly in the mouse. Additional studies include the roles of vascular disruption in limb malformations, fetoplacental malformations in maternal diabetes, reproductive toxic effects of anticonvulsants, the role of heat shock proteins in craniofacial malformations, the effects of the antioxidant α -lipoic acid on diabetic embryopathy, the effect of antioxidant vitamins on lead-induced implantation failure in the mouse, and human dysmorphic syndromes.

The aim of the research in **Dr Sherif Karam's** laboratory focuses on some fundamental aspects of epithelial cell biology.



Members of zymogenic cell lineage labeled with *Griffithia simplicifolia* II lectin (green, mucous neck cells) and anti-intrinsic factor (red, zymogenic cells) in control (a) and retinoic acid-treated (b) mice.

The mouse gastric gland is used as a model system to study factors that control stem cell proliferation, differentiation and migration in health and disease (ulcer or cancer). Also, the epithelial cells of the rat mammary gland are investigated during carcinogenesis.

ORIGINAL PEER-REVIEWED SCIENTIFIC ARTICLES

Abdulrazzaq Y, Al-Gazali LI, Bener A, Hossein M, Varghese M, Dawodu A, Padmanabhan R. (2003). Folic acid awareness and intake survey in the United Arab Emirates. *Reproductive Toxicology* 17;171-176.

Adeghate E, al-Ramadi B, Saleh AM, Vijayarasathy C, Ponery AS, Arafat K, Howarth FC, El-Sharkawy T. (2003). Increase in neuronal nitric oxide synthase content of the gastroduodenal tract of diabetic rats. *Cellular and Molecular Life Sciences* 60; 1172-1179.

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Shehab SAS, Spike RC, Todd AJ. (2003). Evidence against cholera toxin B subunit as a reliable tracer for sprouting of primary afferents following peripheral nerve injury. *Brain Research* 964; 218-227.

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Adeghate E. (2003). Proliferation of pancreatic ductal cells in pancreatic allo- and xenografts. *Cell Transplantation* 12; 187.

Adeghate E. (2003). The effect of diabetes mellitus on the morphology of the heart. *International Journal of Diabetes and Metabolism* 11; 15.

Adeghate E. (2003). Notes on the reinnervation of pancreatic tissue grafts in rat. *Acta Diabetologica* 40; 212-213.

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Al-Ghaithi F, El-Ridi M, Adeghate E, Amiri MH. (2003). Biochemical effects of *Citrullus colocynthis* in non-diabetic and diabetic rats. *International Journal of Diabetes and Metabolism* 11; 19-20.

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Garey LJ, Ong WY. (2003). Increased astrocytic cytoplasmic phospholipase A₂ and neuronal death after ventricular carrageenan injection. *European Winter Conference on Brain Research*, Les Arcs, France.

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Karam SM, Ponery AS. (2003). Retinoic acid enhances epithelial cell proliferation and migration in the mouse stomach. *Fourth Annual Research Day*, UAE University.

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dation and congenital anomalies in rat fetuses. Proceedings of the 4th International Symposium on Diabetes Mellitus and its Complications: From Molecular Biology to Clinical Medicine. Pp 4, University of Central Lancashire, Preston, UK.

Padmanabhan R and Shafiullah M. (2003). Preventive effects of maternal folic acid supplementation on antiepileptic drug-induced neural tube defects in mouse fetuses. Proceedings of the 4th Annual AUE University Res Conference, pp MHS 44.

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Padmanabhan, R. and M. Shafiullah. (2003). Effect of homocyst(e)ine on sodium valproate (VPA)-induced neural tube defects in mouse embryos. Proceedings of the International Genetics Congress, 2003, Dubai.

RESEARCH GRANTS 2003

FMHS New Grants awarded in 2003

Adeghate E. Calcitonin-gene-related-peptide: Cellular distribution and effect in the endocrine pancreas of diabetic Zucker rats (FMHS Grant).

Karam SM. Developmental control of gastric glands. (FMHS grant)

Padmanabhan R. Vascular disruption sequence in exencephaly and limb reduction malformations in a rat model. (FMHS grant)

Shehab S. Pain pathways and localisation of neuropeptides and nitric oxide synthase in the sensory neurons and the spinal cord of camels. (FMHS grant)

UAE University Grants - 2003

Adeghate E. The progressive effects of diet-induced diabetes on the structure and function of cardiac muscle in a genetic mouse model of Type 2 diabetes (UAE University, Individual Grant).

Adeghate E. Mechanisms underlying the progressive long-term effects of Type 2 diabetes on heart muscle function (UAE University, Interdisciplinary Grant).

Padmanabhan R. Pathogenetic mechanisms of craniofacial malformations: Electron. microscopic and immunohistochemical studies on maternal hyperthermia-induced craniofacial abnormalities in rat embryos. [Co-investigator: Noura Musaed Al-Minhali] (UAE University Individual Grant).

Padmanabhan R. Diabetes and Pregnancy: Pathogenetic mechanisms of pregnancy failure, preimplantation loss and embryo resorption in streptozotocin-induced diabetes in the mouse (UAE University, Individual Grant).

Shehab S. The role of the subthalamic nucleus in suppressing tonic motor seizures in an animal model of epilepsy. (UAE University, Individual Grant)

Mensah-Brown EPK, Morrison JKM. Histological and Neurochemical studies on animal models of type I and type II diabetes (UAE University, Individual Grant)

Terry Fox Cancer Research Grant - 2003

Karam SM. Studies on normal & cancerous gastric epithelial cells (Terry Fox Foundation).

Department of Biochemistry

Prof J M Conlon	Chairman, Professor	Dr M Patel	Senior Laboratory Tech.
Prof K Hammond	Professor	Dr M Panteva	Senior Laboratory Tech.
Dr H Raza	Professor	Dr A Lekha	Laboratory Technician
Dr S Galadari	Associate Professor	Mr M Qureshi	Laboratory Technician
Dr M Gillett	Associate Professor	Ms S T Khan	Laboratory Technician
Dr A H Al-Marzouqi	Assistant Professor	Mr A Qader	Laboratory Assistant
Dr A Saleh	Assistant Professor	Ms A John	Laboratory Technician
Dr M J Fernandez	Teacher Outside Faculty	Ms Salma Al-Mansouri	Secretary
Cabezudo			
Dr C Vijayasathy	Visiting Assistant Professor		
Dr M T Al-Ali	Adjunct Assistant Professor		

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Standing left to right: A. John, A. Qader, A.H. Al-Marzouqi, S. Galadari, M. Patel, M. Qureshi, L. Kumar. *Seated left to right:* M. Panteva, S. Khan, J. M Conlon, M. Gillett, H. Raza, M. Fernandez-Cabezudo, K. Hammond.

The year 2003 has seen the recruitment of Dr Milena Panteva from the International Center for Genetic Engineering and Biotechnology, New Dehli, India as Senior Laboratory Technician and the departure of visiting Assistant Professor, Dr Vijayasathy Camasamudram to take up

a research position at the National Institutes of Health, Bethesda, USA. Dr Seha-muddin H. Galadari has returned from sabbatical leave at the University of South Carolina, USA and Dr Haider Raza was promoted to the rank of Professor.

RESEARCH PROFILE

Molecular Toxicology and Chemical Carcinogenesis (Prof. H. Raza)

The inducibility and differential expression of the xenobiotic metabolising enzymes, cytochrome P450s (CYP) and glutathione S-transferases (GST) in response to exposure to environmental pollutants, toxicants, and carcinogens are being investigated. Glutathione metabolism, oxidative stress and lipid peroxidation, along with the role of CYP and GSTs are being investigated to elucidate the molecular mechanisms of cellular toxicity and how cellular protection against toxic insults may occur.

Research Highlights: We have shown that under severe oxidative stress conditions, as seen in many diseases including diabetes and cancer, antioxidant glutathione-dependent metabolism is specifically compartmentalized to defend against the deleterious effects (apoptosis and toxicity) of oxidative stress and reactive oxygen species. Our recent studies have shown that the offspring of diabetic mothers are also under severe oxidative stress.

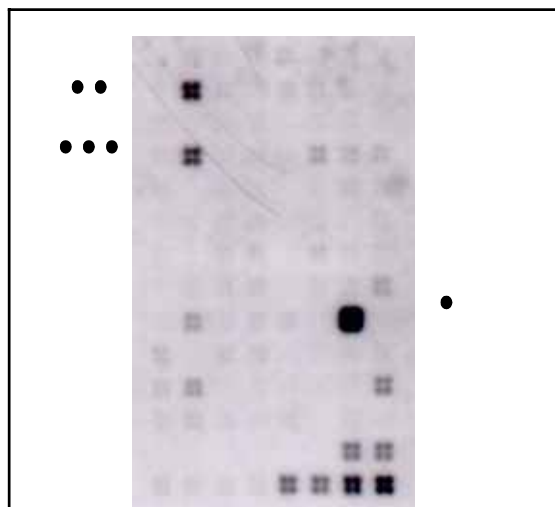
Cell Dynamics and the Regulation of Cell Proliferation, Differentiation and Neoplastic Transformation (Prof. K. Hammond)

Research focuses on dynamic aspects of the regulation of phosphorylation of key proteins and the mechanisms by which signal transduction and apoptotic networks can be modulated, in particular with respect to cell proliferation, differentiation and cancer. Proteomic and gene and protein array approaches are being adopted in these studies.

Research highlights:

- Changes in the frequencies and phasings of the rhythms of expression of specific tyrosine-phosphorylated proteins have been observed in human leukaemia cells induced to differentiate with all-trans retinoic acid; modulation in this way could

be an essential regulatory mechanism of importance with respect to reversal of cancer.



An array showing expression of apoptotic genes. RNA was isolated from blood and used as a template for cDNA probe synthesis, through a reverse transcriptase reaction. The probe was hybridized with a 'superarray' membrane and a chemiluminescent method used for detection. The most highly expressed gene was TNFR2 of the TNF receptor family (•). Others of high intensity were *bcl-x* (••) and caspase 14 (•••).

Cellular regulation and signal transduction pathways in health & disease (Dr. S. Galadari)

Normal cellular function is dependent upon an array of intracellular communication pathways. Cells need to receive signals and send signals, and in that way they communicate with one another at the molecular level. This is achieved by an intricate network of enzymatically regulated biochemical signal pathways prone to regulation by specific messages. If one or more of these enzymes are abrogated or over subscribed, then disease is set. Indeed, this is what happens at the molecular level of diseases such as cancer, where normal cell growth runs out of control due to over subscription of the growth signaling pathway that results following deregulated activity of some enzymes in that pathway, thus leading to tumor formation. Our research effort is focused on studying the role of sphingolipids, a novel group of putative second messen-

gers, and the enzymes that produce them. In particular, our effort is focused on ceramide, sphingosine, and sphingosine 1-phosphate. This group of messengers play vital signaling role in apoptosis, angiogenesis and stress responses. We are applying the tools of molecular cell biology as well as classical biochemistry to elucidate the function of these messengers.

Research Highlights: We have been investigating ceramidases which regulate the levels of ceramide, sphingosine, and sphingosine 1-phosphate. Recently, we have cloned and characterized an alkaline ceramidase from mouse endoplasmic reticulum that has a preference for regulating levels of very long chain ceramides.

Lipoproteins and Disease (Dr M Gillett)

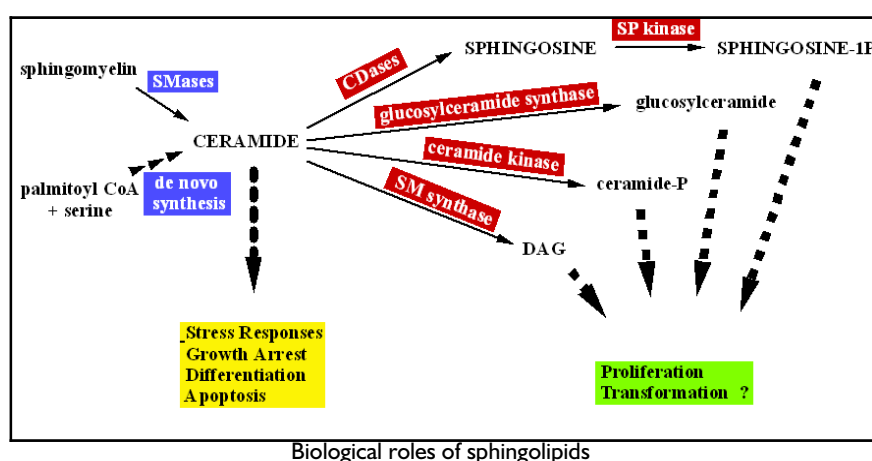
Lipoproteins play key roles in health and disease. Current projects in collaboration with the Department of Internal Medicine are investigating dyslipoproteinaemia in renal disease, including the effects of erythropoietin treatment of dialysis patients, and in hypertension in the UAE national population. Further studies include investigation of the effects of renal toxins on lecithin: cholesterol acyltransferase expression by cultured HepG2 cells.

Research Highlights: In a large study of UAE nationals with untreated essential hypertension, a number of significant findings have

been made including the fact that endothelin-1 (ET-1) levels in these patients are raised 8-fold and correlate independently with both systolic and diastolic blood pressure. In these patients, levels of high density lipoproteins (HDL) are significantly decreased and also correlate inversely and independently with blood pressure. Furthermore, strong direct and indirect correlations respectively between ET-1 levels and plasma non-esterified fatty acid and HDL levels raise an interesting possibility that ET-1 action in hypertension and dyslipoproteinaemia may be linked at the level of the vascular endothelium by a mechanism that involves the newly discovered endothelial lipase enzyme. Further studies of this hypertensive Emirati population, which lacks several confounding factors such as alcohol consumption and cigarette smoking, but which shows severe hypertension are ongoing.

Apoptosis Execution and Regulation (Dr A. Saleh)

Organophosphorus compounds (OPCs) are widely used in agriculture as pesticides and their acute toxic effects are mainly caused by inhibition of acetylcholinesterase (AChE) in nervous tissue resulting in increased levels of the neurotransmitter acetylcholine. We have shown that several OPCs cause apoptotic cell death in mammalian cell lines through activation of caspase-3 and have elucidated the sequence of events involved in OPC-stimulated apoptosis using various



caspase-specific inhibitors. OPCs also induce apoptosis in a caspase-9-dependent manner due to their direct effect on mitochondria. OPCs disrupt the mitochondria transmembrane potential leading to release of cytochrome c into the cytoplasm. In turn, cytochrome c will bind and activate Apaf-1-caspase-9 complex. The release of cytochrome C from mitochondria to the cytoplasm is due to formation of reactive oxygen species (ROS) and decrease in the content of the inner membrane cardiolipin.

Research Highlights: We have recently shown that the anti-emetic drug metoclopramide specifically inhibits all the apoptotic events induced by OPCs. Our preliminary results indicate that the inhibitory effect of the drug on OPC-induced apoptosis may be due to its ability to form complexes with these compounds.

Signal Transduction in T Lymphocytes (Dr. M. J. F. Cabezudo)

The Src-family protein tyrosine kinases (PTKs) are a group of enzymes that catalyze the phosphorylation of substrates in tyrosine residues and play a central role in the activation and proliferation of T lymphocytes. One of these protein tyrosine kinases is Lck, which is a dominant regulator of cellular proliferation. To clarify the role of Lck in T cell function we are studying the signaling properties of a stable T cell transfectant deficient in Lck expression.

Research Highlights: We have shown that Th2 cells can be induced to produce IL-4 by a novel signaling pathway involving the CD43 molecule. This may be of significance

physiologically as, previously, only Th2 cells activated through the T cell receptor were known to produce IL-4.

Peptide-based Antimicrobial Agents (Prof. J.M. Conlon)

The emergence of pathogenic microorganisms with resistance to commonly used antibiotics has necessitated a search for new sources of antimicrobial drugs. Bactericidal and fungicidal peptides synthesized in granular glands in the skins of certain frogs represent a promising source of such potential therapeutic agents. Peptides from a wide range of frog species are under investigation and synthetic analogues of the naturally occurring peptides with increased antimicrobial potency but with decreased toxicity towards mammalian cells are being studied.

Research Highlights: Peptides belonging to the brevinin-2 family were isolated from the skin of the Japanese frog *Rana pirica* and shown to possess growth-inhibitory activity against a wide range of Gram-positive and Gram-negative bacteria with particular high potency against drug-resistant strains of *Pseudomonas aeruginosa*. The peptides showed low hemolytic activity against human erythrocytes.

Mechanisms of Transcriptional Regulation by Chromatin-Modifying Complexes (Dr. A H Al-Marzouqi)

The action of protein complexes that are able to overcome the repressive effects of chromatin is an important step in the regulation of eukaryotic gene expression. These are multi-subunit complexes that modify

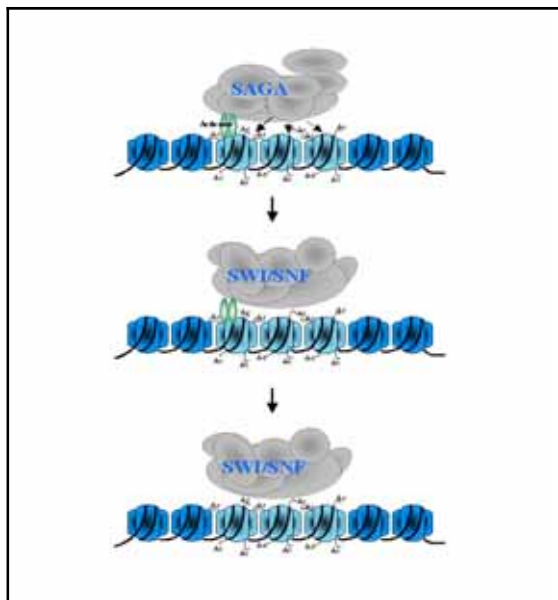
Brevinin-2PRa	GLMSLFKGVLTAGKHIFKNVGGSLLDQAKCKITGEC
Brevinin-2PRb	GLMSLFRGVLTAGKHIFKNVGGSLLDQAKCKITGEC
Brevinin-2PRc	GLMSVLKGVLTAGKHIFKNVGGSLLDQAKCKISGQC
Brevinin-2PRd	GLMSVLKGVLTAGKHIFKNVGGSLLDQAKCKITGQC



The Hokkaido frog, *Rana pirica*: an anuran whose skin is a source of peptides with potent activity against the opportunistic pathogen *Pseudomonas aeruginosa*

histones (i.e., histone acetyltransferase [HAT] complexes) or remodel chromatin structures (i.e., the SWI/SNF complex). It has become apparent that some gene promoters require modifications by both types of complexes. We are currently investigating the functional relationship between these different complexes. Many subunits of these chromatin-modifying complexes in humans have been implicated in the development of cancer and so we are studying how chromatin misregulation contributes to cancer.

The current focus of my laboratory is to find out how the two different types of chromatin modifying complexes (Histone acetyltransferases and SWI/SNF) communicate with each other and work together to exert their combined effect in turning genes on. This is an important question since certain genes require an ordered action of both of these complexes to be turned on.



Model depicting how targeted nucleosomal acetylation by SAGA stabilizes the SWI/SNF complex at promoters. Activator recruitment of the SAGA complex leads to acetylation of promoter-proximal nucleosomes. Then the SWI/SNF complex is also recruited to promoter-proximal nucleosomes by the same activator. Finally, once the activator has dissociated, acetylation by the SAGA complex helps retain SWI/SNF at the promoter via interactions of the bromodomain-containing subunit of the complex with acetylated lysines.

It is likely that errors in the function of these complexes can result in alterations in the life cycle of the cell that would lead to the development of cancer.

Research highlights. (1) Recruitment of chromatin-modifying complexes by acidic activators. (2) Identification of a functional link between different chromatin-modifying complexes. (3) Identification of domains in the activators that interact with SWI/SNF.

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Fernandez-Cabezudo, Vijayasathya C, al-Ramadi BK. (2003). A partially redundant role for the Lck Tyrosine Kinase in CD43 signalling. 34th Annual Meeting of the Scandinavian Society for Immunology, Reykjavik, Iceland

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RESEARCH GRANTS – 2003 FMHS New Research Grant 2003

Dr A Al-Marzouqi

Fundamental analysis of the chromatin-remodeling complex SWI/SNF.

Prof H Raza

Oxidative stress induced expression and distribution of cytochrome P450 2E1, Glutathione S-transferase and Hsp70 as markers in streptozotocin-induced diabetes.

Dr MJ Fernandez-Cabezudo

Interaction between Src-Protein tyrosin kinases and DAD-I protein in the regulation of cellular proliferation in lymphoid cells.

Prof JM Conlon

Purification and characterization of protease inhibitors from frog skin and an investigation of their potential as therapeutic agents.

UAE University Grant 2003

Dr. A Al-Marzouqi

Interactions between domains in transcriptional activators and histone tails.

Prof JM Conlon

Development of novel peptide-based antimicrobial agents for use in the treatment of diabetic foot ulcers.

Terry Fox Cancer Research Grant 2003

Prof H Raza

Molecular cloning, sequencing and heterologous expression of a mammalian cDNA in bacteria coding glutathione transferase isoenzyme involved in chemical carcinogenesis.

Prof K Hammond

Molecular profiling of leukemia cells: a proteomic approach.

Department of Community Medicine

Dr A Nicol	Chairman, Associate Professor	Dr M El Sadig	Administrator/Research fellow
Dr A Carter¹	Associate Professor	Dr HO Ahmed	Occupational Hygienist
Dr P Barss	Associate Professor	Mr SV Shinelal	General Technician
Dr M Newson Smith²	Assistant Professor	Mr M Alsajir	Telemedicine Technician
Dr M M Hossain³	Visiting Professor	Mr H El Agab	General Technician
Dr M Grivna⁴	Assistant Professor	Ms A Kaljee	Medical Secretary
Dr F Al-Maskari	Assistant Professor	Mr M Jamal	Office Assistant
Dr. J. Al-Mutawa	Assistant Professor		

1 Dr. Anne Carter departed 30 June 2003

2 Dr. Mark Newson Smith departed 21 Dec. 2003

3 Dr Hossain's term as Visiting Professor expired on 30 June 2003

4 Dr Grivna joined the department on 1 Aug. 2003

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RESEARCH PROFILE

Published work from the Department of Community Medicine during 2003 reflects the diversity of interests of faculty staff, but largely conforms to the seven areas of research priorities established by Dean Carruthers in the Year 2000 Annual Report. The faculty of this department also provides advice on clinical research issues and works in close collaboration with fellow clinicians from the faculty and other Ministry of Health institutions providing epidemiological and statistical expertise. Senior clerks also carry out research during their community medicine clerkships in the department of preventive medicine, community and primary and secondary care institutions.

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Department of Family Medicine

Prof R Reed	Chairman, Professor	Mr W Al Mohtaseb	Research Assistant
Prof E Dunn	Professor	Ms Hala Mustafa	Research Assistant
Dr G Griffin	Associate Professor	Mr M Balshe	Administrative Assistant
Dr C Leduc	Associate Professor	Mr J Cherian	Assistant Technician
Dr P Flood	Assistant Professor	Ms P Conaghan	Medical Secretary
Dr F Hyay Al Mansouri	Assistant Professor		
Dr S Margolis	Assistant Professor		
Dr C Miller	Assistant Professor		
Dr T Carter	Physician Consultant		
Dr T Revel	Consultant in Family Medicine, PHC		

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RESEARCH PROFILE

The Department of Family Medicine faculty continue to focus their research on:

- Characterising conditions of high prevalence seen in primary health care centres and the community. The frequency, presentation, diagnosis and management of diabetes, asthma, osteoporosis and conditions associated with aging are areas of emphasis for our research.
- Developing methods for improving the delivery of primary health care services focusing on improving diabetes and asthma care.
- Research on improvement of the process and outcomes of medical education for Family Medicine with special emphasis on issues related to increasing the effectiveness of educational methods and measurement of educational outcomes.

This year has been particularly productive with the largest number of annual research publications since its inception. Studies published this past year include several studies relating to geriatric care within the

UAE, studies on osteoporosis diagnosis and management and studies of the impact of dates in the diet on glycemic index. In addition, faculty have been actively involved in presenting data at scientific meetings in the UAE and worldwide.

Our department members have also been active in several interdisciplinary research groups including coordinating chair of the Medical Education Research Group, and serving as a core member of the Diabetes and Cardiovascular Disease Research Group. Members of the Department of Family Medicine have also been active in a variety of research service activities including chairing the Grand Hamdan Award Subcommittee and chairing the Terry Fox Scientific Review committee.

Two major research projects, which are ongoing this year include a research project on improving diabetes care in primary health care funded by the Sheikh Hamdan Award, and a project evaluating the genetics of neurological disease funded by the University Grants Programme.

Other ongoing projects, which characterise high prevalence conditions in primary care include studies on the prevalence of asthma in school children, the prevalence of anaemia in young children and validation of an asthma quality of life questionnaire.

Numerous educational studies are also in progress including an evaluation of teaching of medical students by clinical preceptors in primary health care, a study of thyroid function testing ordering by primary care physicians and an assessment of what happens to graduates of the Faculty of Medicine once they complete their educational Programme.

Our department looks forward to 2004, which we anticipate will continue to be a productive year for research for our department.

Richard Reed MD, MPH
Professor and Chairman
Department of Family Medicine

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Miller CJ, Dunn EV, Thomas EJ, Sankarankutty M. (2003). Urinary free deoxypyridinoline excretion in lactating and non-lactating Arabic women of the United Arab Emirates. *Annals of Clinical Biochemistry*, 40; 394-397.

Miller CJ, Sankaran-Kutty M. (2003). A case of shoulder girdle and chest trauma. *Saudi Medical Journal*, 24 (3); 309-310.

Reed RL, Hepburn K, Adelson R, Center B, McKnight P. (2003). Low serum albumin, confusion, fecal incontinence: Are these risk factors for

pressure ulcers in mobility impaired hospitalized older adults. *Gerontologist*, 2003, 49; 255-259.

Saadi HF, Reed RL, Carter AO, Dunn EV, Qazaq HS, Al-Suhaili AR. (2003). Quantitative ultrasound of the calcaneus in Arabian women: relation to anthropometric and lifestyle factors. *Maturitas* 2003, 44(3); 215-223.

Saadi H, Reed R, Carter A, Qazaq H, Al-Suhaili AR. (2001). Bone density estimates and risk factors for osteoporosis in young women. *Eastern Mediterranean Health Journal*, 7(4-5); 730-737.

Revel T, Yussuf H. (2003). Taking primary care continuing professional education to rural areas: lessons from the United Arab Emirates. *Australian Journal of Rural Health*, 11(6); 271-276.

PROCEEDINGS, CONFERENCES, INVITED LECTURES, WEB SITES AND OTHERS

Margolis SA, Carter T, Dunn EV, Reed RL. (2003). The health status of community living elderly in the United Arab Emirates. The Fourth Annual Conference on Research at UAE University, Al Ain, UAE.

Reed RL. (2003). Teaching Family Medicine Around the World: Lessons from the Field. Society of Teachers of Family Medicine 36th Annual Conference, Atlanta, Georgia, USA.

Saadi H, Carter A, Reed R, Dunn E. (2003). Factors associated with obesity in Arabian women. The Proceedings of the 85th Annual Meeting of The Endocrine Society, Philadelphia, USA.

RESEARCH GRANTS 2003 UAE University Grants - 2003

Margolis SA, Hammond KD. (2003). Apoptotic gene expression in elderly Emirati with neurodegenerative disease. UAE University 2003.

Hamdan Award Medical Research Grant – 2003

Reed RL, Carter AO, Dunn EV, Revel T, Saadi H. A randomized clinical trial of an educational intervention to improve the quality of hypertension care in diabetic patients in primary health centers in Al Ain, UAE. (2002-2004).

Saadi H, Reed RL. Bone Mineral Density of the United Arab Emirates Female Reference Population. Principal Investigator. (2002-2004).

Department of Internal Medicine_____

Prof M G Nicholls	Professor and Chairman	Dr A A Melaih	Teaching Assistant
Prof M Ellis	Professor	Dr A Al-Dhanhani	Teaching Assistant
Prof E N Obineche	Professor	Dr S Al-Karam	Teaching Assistant
Dr I Galadari	Associate Professor	Dr H Galadari	Teaching Assistant
Dr E E Kazzam	Associate Professor	Dr J Al Kaabi	Teaching Assistant
Dr E Adeyemi	Associate Professor	Dr G Al Mansouri	Teaching Assistant
Dr H Saadi	Assistant Professor	Dr M Al Houqani	Teaching Assistant
Dr S Denic	Assistant Professor	Dr S Benedict	Senior Technician
Dr J Joseph	Assistant Professor	Mr A M Abdulle	General Technician
Dr A Shehab	Teaching Assistant	Mr J Yasin	Technician
Dr S Al Suwaidi	Teaching Assistant	Ms S Ogilvie	Medical Secretary
		Ms R John	Secretary
		Mr H Hassan	Adm. Assistant

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Standing from left to right: Dr S Denic, Dr S Benedict, Ms R John, Mr AM Abdulle, Mr H Hassan, Ms S Ogilvie, Mr J Yasin, Mr Pocker

Seated from left to right: Dr J Joseph, Dr I Galadari, Professor M Ellis, Professor MG Nicholls, Professor EN Obineche, Dr H Galadari, Dr H Saadi, Dr U Hedström.



Scientific research in Department of Internal Medicine, 2003

RESEARCH PROFILE

This Department has remained active in the three significant fields of Teaching, Research and Clinical Duties through 2003.

Dr Kazzam, Cardiologist, has joined the Department and has taken over organisation of the Junior Medical Clerkship. Dr Walter Conca, Rheumatologist, will join the Department in June 2004. Visits are organised for May and June 2004 for candidates in Neurology, General Medicine and Gastroenterology.

In relation to Teaching Assistants, we had nine in 2003, six carrying out their Internship Programmes in USA and Canada, one finishing his Postgraduate Programme in the United Kingdom, and two in the Department. They are as follows:

- Dr A Shehab Teaching Assistant (UK)
- Dr S Al Suwaidi Teaching Assistant (Canada)
- Dr A Al Melaih Teaching Assistant (Canada)
- Dr A Al-Dhanhani Teaching Assistant (Canada)
- Dr S Al-Karam Teaching Assistant (Canada)
- Dr H Galadari Teaching Assistant (USA)
- Dr J Al Kaabi Teaching Assistant (Canada)
- Dr G Al Mansoori Teaching Assistant (FMHS - planning on going to Canada)
- Dr M Al Houqani Teaching Assistant (FMHS - planning on going to Canada)

Dr Sheela Benedict and our two Technical Assistants (Mr Javed Yasin and Mr A M Ab-

dulle) have been enmeshed in the research activities of various faculty within and outside the Department. Their workload increases steadily with time.

Ms Sheena Ogilvie and Ms Reena John continue to provide secretarial services and Mr Hisham Hassan vital general services for the Department. Ms Shaikha Al Marar will join the Department in March 2004 to assist with the expanding research studies.

The Departmental laboratory is located on the 3rd floor and research interests and publications covered in 2003 were:

genetics
dermatology
cytokines
cancer
infections, including fungi
lipids
pleural disorders
peptides
diabetes
osteoporosis
cardiovascular disease
chronic renal failure.

The Department published approximately 31 papers and members presented 9 papers at international meetings in 2003. Funding was forthcoming for 8 grants.

ORIGINAL PEER-REVIEWED SCIENTIFIC ARTICLES

Afandi B, Toumeh S, Saadi H. (2003). Cushing's Syndrome caused by unsupervised use of ocular

glucocorticoids. *Endocrine Practice* 9; 526-529.

Al Rubaie, Galadari I, Al Sayed. (2003). Chronic idiopathic urticaria. *Modern Medicine J* 20; 29-33.

Begg E, Sidwell A, Gardiner S, Nicholls G, Scott R. (2003). The sorry saga of the statins in New Zealand - pharmacopolitics versus patient care. *New Zealand Medical Journal* 116; 1-5.

Charles CJ, Elliott JM, Nicholls MG, Rademaker MT, Richards AM. (2003). Natriuretic peptides maintain sodium homeostasis during chronic volume loading post-myocardial infarction in sheep. *Clinical Science* 104; 429-436.

Charles CJ, Lainchbury JG, Nicholls MG, Rademaker MT, Richards AM, Troughton RW. (2003). Adrenomedullin and the renin-angiotensin-aldosterone system. *Regulatory Peptides* 112; 41-49.

Denic S. (2003). Consanguinity as risk factor for cervical carcinoma. *Med Hypotheses* 60(3); 321-324.

Ellis ME, Zwaan F, Hedström U, Poynton C, Kristensen J, Jumaa P, Wassell J, al-Ramadi B. (2003). Recombinant human interleukin 11 and bacterial infection in patients with haematological malignant disease undergoing chemotherapy: a double-blind placebo-controlled randomized trial. *Lancet* 361; 275-80.

Ellis M, Hedström U, Jumaa P, Bener A. (2003). Epidemiology, presentation, management and outcome of candidemia in a tertiary care teaching hospital in the United Arab Emirates, 1995-2001. *Medical Mycology* 41; 521-28.

Ellis M, Serreli A, Colque-Navarro, Hedström U, Chacko A, Siemkowicz. (2003). Role of staphylococcal enterotoxin A in a fatal case of endocarditis. *J Med Microbiol* 52; 1-4.

Evans JJ, Youssef AH, Yandle TG, Lewis LK, Nicholls MG. (2003). Endothelin-1 directly modulates its own secretion: studies utilizing the cell immunoblot technique. *Regulatory Peptides* 113;149-153.

Fung JWH, Yu CM, Yip G, Chan S, Yandle TG, Richards AM, Nicholls MG, Sanderson JE. (2003). Effect of beta-blockade (carvedilol or metoprolol) on activation of the renin-angiotensin-aldosterone system and natriuretic peptides in chronic heart failure. *American Journal of Cardiology* 92; 406-410.

Galadari I, Al-Kuwaiti R. (2003). Lipoid proteinosis. *Int J Derm* 42; 718-720.

Galadari I, Al-Rubai S, Galadari H. (2003). Diphenylprone in treatment of chronic severe alopecia areata. *Europe ann Allergy and Imm* 35; 397-400.

Galadari I, Al-Katbi. (2003). Netherton syndrome. *Skin Med J* 2; 387-388.

Galadari I. (2003). Botox in treatment of axillary hyperhidrosis. *Skin Med J* 2; 209-211.

Galadari I. (2003). V tar in treatment of vitiligo. *Pan A Derm J* 14; 9-13.

Galadari I, Abdullah B. (2003). Narrow band UVB in treatment for vitiligo. *Pan A Derm J* 14;15-19.

Jardine DL, Charles CJ, Forrester MD, Whitehead M, Nicholls MG. (2003). A neural mechanism for sudden death after myocardial infarction. *Clinical Autonomic Research* 13; 339-341.

Joseph J, Badrinath P, Basran GS, Sahn SA. (2003). Do we need all three criteria for the diagnostic separation of pleural fluid into transudates and exudates? An appraisal of the traditional criteria. *Medical Science Monitor* 9; 474-476.

Joseph J, Benedict S, Badrinath P, Wassef S, Joseph M, Abdulkhalik S, Nicholls MG. (2003). Elevation of plasma transforming growth factor beta1 levels in stable nonatopic asthma. *Ann Allergy Asthma Immunol* 9; 472-476.

Joseph J, Benedict S, Safa W, Badrinath P, Joseph M, Abdulkhalik S, Mariam MS. (2003). Plasma TGF-β1 in asthma: Influence of inhaled steroids. *Emirates Medical Journal* 21; 160-163.

Krishtul A, Galadari I. (2003). Waardenburg syndrome. *Int J Derm* 42; 651-652.

Lainchbury JG, Campbell E, Frampton CM, Yandle TG, Nicholls MG, Richards AM. (2003). Brain natriuretic peptide and N-terminal brain natriuretic peptide in the diagnosis of heart failure in patients with acute shortness of breath. *Journal of the American College of Cardiology* 42; 728-735.

Martin J, Mourton S, Nicholls G. (2003). Severe hyperkalaemia with prescription of potassium-retaining agents in an elderly patient. *New Zealand Medical Journal* 116; 1-3.

Nicholls MG, Charles CJ, Lainchbury JG, Lewis LK, Rademaker MT, Richards AM, Yandle TG.

(2003). Adrenomedullin in heart failure. *Hypertension Research* 26(Supplement); S135-140.

Palmer BR, Pilbrow AP, Yandle TG, Frampton CM, Richards AM, Nicholls MG, Cameron VA. (2003). ACE gene polymorphism interacts with LVEF and BNP levels to predict mortality following myocardial infarction. *J Am Coll Cardiol* 41;729-736.

Rademaker MT, Cameron VA, Charles CJ, Lainchbury JG, Nicholls MG, Richards AM. (2003). Adrenomedullin and heart failure. *Regulatory Peptides* 112; 51-60.

Richards AM, Nicholls MG, Espiner EA, Lainchbury JG, Troughton RW, Elliott J, Frampton C, Turner J, Crozier IG, Yandle TG. (2003). B-type natriuretic peptides and ejection fraction for prognosis after myocardial infarction. *Circulation* 107; 2786-2792.

Saadi H, Reed R, Carter A, Dunn E, Qazaq H, Al-Suhaili A. (2003). Quantitative ultrasound of the calcaneus in Arabian women: Relation to anthropometric and lifestyle factors. *Maturitas* 44; 215-223.

Saadi H, Reed R, Carter A, Qazak H, Al-Suhaili A. (2003). Bone density estimates and risk factors for osteoporosis in young women. *Eastern Mediterranean Health Journal* 7; 730-737.

Troughton RW, Frampton CM, Yandle TG, Espiner EA, Nicholls G, Richards M. (2003). Plasma amino-terminal B-type natriuretic peptide measured by Elecsys 2010 assay in a trial of hormone-guided treatment for heart failure. *Clinical Chemistry* 49; 1212-1215.

BOOKS, CHAPTERS, REVIEWS AND EDITORIALS

Adeyemi EO, Obineche EN. (2003). Acute human viral hepatitis. *Emirates Medical Journal* 21 (9); 1-3.

Joseph J, Lynch JP, Sahn SA. (2003). Effusions from collagen vascular disease. In: *Textbook of pleural disease*. Editors: Light and Lee. Arnold, London. pp 370-381.

Obineche EN. (2003). Management of hypertension: Update and review. *Bulletin of the Kuwait Institute of Medical Specialization* 2(2); 73-82.

Richards AM, Nicholls MG. (2003). Endocrine causes of hypertension. In: *Comprehensive Clinical*

Nephrology. Editors: Johnson RJ, Fechal J, Mosby, Edinburgh et al. pp 529-542.

PUBLISHED ABSTRACTS, LETTERS, CORRESPONDENCE

Alfurayh O, Sobh M, Chaudry T, Qunibi W, Meshari K, Ellis M et al. (2003). Impact of hepatitis C virus infection on kidney transplant outcome. *Saudi Med J* 24(Supplement 2); S128.

Denic S, Al-Gazali L. (2003). BRCA1 and BRCA2 mutations in breast cancer patients from Saudi Arabia. *Saudi Med J (letter)* 24(6); 696.

Denic S. (2003). Does inbreeding alter risk of cancer? Fitting data into four consanguinity models of cancer. *Int J Molec Med* 12(supplement 1); S25.

Denic S, Saadi H, Khatib F. (2003). Age preference in patients from developing countries: potential study bias and health risk. *Clinical Research*. Baltimore, MA, USA. *Journal of Investigative Medicine*, 2003;51(2); S356.

Gillett MPT, Abdulle AM, Malanin K, Obineche E. (2003). Association between raised plasma endothelin-1 (ET-1) levels and altered lipid profile in a homogeneous Gulf Arab population with untreated essential hypertension. *Nephro Asia, Singapore*.

Joseph J, Benedict S, Safa W, Joseph M, Abdulkhalik S. (2003). Influence of inhaled steroids on serum interleukin-5 and interleukin-13 in an adult population of stable asthmatics. *European Respiratory J*, 22; S291.

PROCEEDINGS, CONFERENCES, INVITED LECTURES, WEB SITES AND OTHERS

Denic S. (2003). Consanguinity and homozygosity of cancer genes (invited presentation). *International Genetics Congress*. Dubai, UAE.

Denic S, Khatib F, Awad M, Milenkovic J. (2003). High breast and ovarian cancer rates in Pakistan are explained by hybridization of inbred populations. (Invited presentation) 6th Shaukat Khanum Memorial Cancer Symposium. Dubai, UAE.

Ellis M. (2003). Role of liposomal amphotericin B in invasive pulmonary aspergillosis. Invited speaker at the 5th Turkish National Neutropenia Symposium. Antalya, Turkey.

Ellis M. (2003). Reduction of bacterial infection in patients with haematological malignancy by recombinant human interleukin 11. Fourth Annual UAE University Research Conference. Al-Ain, UAE.

Ellis M. (2003). Non-antibiotic approaches to the management of infectious diseases. Presented at "Update in Infectious Diseases" symposium, organized by the International Journal of Diabetes and Metabolism. Al-Ain, UAE.

Ellis M. (2003). Approaches to diagnosis and management of haematological patients with invasive mycoses. Invited speaker. Karpenessi, Greece.

Galadari I. (2003). Evaluation of lasers for long-term hair removal. 61st American Academy (focus sessions). San Francisco, USA.

Nicholls MG. (2003). Aldosterone, ouabain and adrenomedullin: adrenal hormones? Invited speaker at international symposium. Hormones and the Heart. Melbourne, Australia.

Nicholls MG. (2003). Clinical use of BNP and NT-BNP. Invited speaker at Fourth Oulu Symposium in Advances in Molecular and Cellular Biology of Vasoactive Factors. Oulu, Finland.

Obineche EN. (2003). Circulating levels of endothelin-1 and blood pressure in an ethnic Gulf Arab population. Agha Khan University Medical School. Nairobi, Kenya.

Obineche EN, Abdulle A, Frossard P, Bokhari A, Malanin K, Ahmed M, Khan S, Gillett M. (2003). Circulating levels of endothelin (ET-1) in a homogenous Gulf Arab Population with untreated essential hypertension. World Congress of Nephrology, Berlin.

Obineche EN, Mensah-Brown EPK, Patel SM, Galadari S, Chandranath E, Ahmed I, Adem A. (2003). Diabetic nephropathy in streptozotocin-induced diabetic rats: The role of inflammatory cytokines. World Congress of Nephrology. Berlin.

Saadi H, Carter A, Reed R, Dunn E. (2003). Factors associated with obesity in Arabian women. The Proceedings of the 85th Annual Meeting of the Endocrine Society. Philadelphia, USA.

RESEARCH GRANTS 2003

FMHS New Grants awarded in 2003

Denic S. (2001-2003). Consanguinity and cancer. (3-year FMHS grant).

Ellis M. Fungal serology diagnostics in leukaemic patients.

Nicholls MG, Obineche EN. (2003). Effect of peritoneal dialysis on vasoactive hormone levels in patients with chronic renal failure.

UAE University Grants - 2003

Adem A, Obineche EN. (2003). Trace element profile of Type 2 diabetic patients in the United Arab Emirates.

Joseph J. (2003). Comparison of Th-1 and Th-2 intracellular cytokine profiles between atopic and non-atopic asthmatics and their [clinical and biological] responses to a leukotriene receptor antagonist or corticosteroid therapy.

Hamdan Award Medical Research

Grant – 2003

Obineche EN, Gillett MPT. (2003-2004). Endothelin, nitric oxide, homocysteine, lipid and lipoprotein profile as cardiovascular risk factors in normotensive and hypertensive UAE Nationals compared to selected expatriate groups.

Saadi H, Al-Suhaili A/R, Mohammadiyah M, Reed R, Agarwal M, Benedict S. Bone mineral density of the United Arab Emirates female reference population. Ongoing study (2003-2004). Sheikh Hamdan Award.

Terry Fox Cancer Research Grant - 2003

Ellis M. (2003). Interleukin-11 in sepsis prevention in leukaemic patients.

Department of Medical Education_____

Prof D Lloyd	Associate Dean for Education	Mr A Wahab	Technician Manager, Student Laboratories
Dr M Elzubeir	Associate Professor	Ms S Al Mazrouei	Technician
Ms B Thorsteinson	Director, Learning Resource	Mr A Prasad	Photographer
Dr U Hedstrom	Coordinator, Skills Laboratory	Ms H Mansour	Secretary
Dr Samy Shaban	Medical Informatics	Mr M Nazimmuddin	Secretary
Mr K Neumann	English Unit	Mr C P Nair	Secretary
Ms G Kershaw	English Unit	Mr K Unnikrishnan	Manager, Skills Laboratory
Mr A Mohammad	IT telemedicine Specialist	Mr M Aboobacker	Photocopy Technician
Ms M Al Baloushi	IT Specialist	Mr Hussain	Office Assistant
Ms S Al Shamsi	IT Specialist	Mr Pandian	Laboratory Services
Ms L Mohammed	IT Specialist	Mr B Abubakkar	Office Assistant
Ms A Al Shamsi	IT Specialist	Mr Usman	Office Assistant
Ms I Lizarriturri	Graphic Designer		
Mr Mosa	Audio/Visual		

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Standing from left : Mr C P Nair, Mr AlSajir Mohammed, Mr A Wahab, Mr Pandian, Dr Samy Shaban, Mr K Neumann
Mr Mosa, Mr A Prasad, Mr K Unnikrishnan, Mr M Nazimmuddin, Mr B Abubakkar
setting from left: Mr Ahmed Fathi (LRC-NML), Ms Nada Naji (LRC-NML), Ms B Thorsteinson, Dr U Hedstrom,
Prof Lloyd, Ms G Kershaw, Ms H Mansour, Ms I Lizarriturri.

RESEARCH PROFILE

The Department of Medical Education supports the research mission of the Faculty of Medicine and Health Sciences in a number of ways. First, the Media Center provides technical assistance through high quality graphics and photography. These services are particularly relevant for production work related to journal submissions, poster presentations at professional conferences and other reports of findings.

Second, the Department can provide background and contextual data regarding student performance and assessment for staff engaged in research on curriculum and medical education topics and issues.

Selected research interests:

1. Student communication skills.
2. Utilization of a North American exam (National Board of Medical Examiners Clinical Subject Area Exams) as an external indicator of student achievement.
3. Student experience of stress and coping methods.
4. Health care needs of Emirati women
5. Student test-taking anxiety.
6. Peer evaluation of teaching.
7. Student attribution styles.

ORIGINAL PEER-REVIEWED SCIENTIFIC ARTICLES

Carter AO, Elzubeir M, Abdulrazzaq YM, Revel AD, Townsend AT. (2003). Health and lifestyle needs assessment of medical students in the United Arab Emirates. *Medical Teacher* 25 (5);492-6.

Elzubeir MA, Rizk DEE. (2003). Exploring perceptions and attitudes of senior medical students and interns to academic integrity. *Med Educ*, 37;589-596.

PROCEEDINGS, CONFERENCES, INVITED LECTURES, WEB SITES AND OTHERS

Abu-Zidan F, Elzubeir MA. (2003). An interactive approach to teaching traumatology: Comparison between Auckland and Al Ain. Annual Congress Royal Australasian College of Surgeons, Brisbane.

Abu-Zidan F, Elzubeir MA. (2003). Instructional skills contributing to outstanding surgical teaching. Annual Congress Royal Australasian College of Surgeons, Brisbane.

Abu-Zidan F, Elzubeir MA. (2003). Instructional skills contributing to outstanding teaching. 11th UAE Surgical Conference. Abu-Dhabi, UAE

Department of Medical Microbiology and Immunology

Prof M Lukic	Professor, Chairman	Ms A Ghazzawi	Teaching & research assistant
Prof N Nowotny	Professor	Mr A Usmani	Chief Technician
Prof S Dissanayake	Professor	Mr A Shahin	Senior Technician
Dr B al-Ramadi	Associate Professor	Dr E Zilahi	Senior Technician
Dr T Pal	Associate Professor	Mr A Al Haj	General Technician
Dr T Rizvi	Associate Professor	Mr J Ali	General Technician
Dr M B Al Shamsi	Assistant Professor	Mr H Hasasna	General Technician
Dr P Jumaa	Assistant Professor	Ms S R Amithr	General Technician
		Ms G Bashir	Assistant Technician
		Ms G Dawood	Secretary
		Ms N J S Al Dhafri	Secretary
		Mr M Hashiq	Office Assistant

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Standing from left : Dr. T Pal, Prof N Nowotny, Prof M Lukic, Mr A Al Haj, Dr. B al-Ramadi, Ms G Bashir
Dr A Sonnevend, Dr E Zilahi, Dr P Jumaa, Dr T Rizvi, Mr J Ali, Mr H Hasasna,
Dr M Al Shamsi, Ms M Dawood, Mr A Usmani, Mr M Hashiq

RESEARCH PROFILE

In the year 2003 the Department had seven academic members, one teaching assistant and supporting staff. Departmental research activities greatly benefited from the contribution of the two highly competent volunteer researchers – Drs. Farah Mustafa and Agnes Sonnevend, and dedicated technical and secretarial support.

In the year 2003, the Department has further established several lines of research in Microbiology and Immunology. Research outcome of existing research laboratories were good and with new member Assistant Professor Dr. Pauline Jumaa, it is expected that clinical relevance of the research projects will be further enhanced.

The highlight of the year was the collaboration of Drs. B Al-Ramadi and P. Jumaa with Professor M. Ellis and haematologists from Tawam Hospital on the effects of human interleukin 11 on bacterial infection in patients with haematological malignancies undergoing chemotherapy, which was published in *Lancet*, one of the two most prestigious journals in clinical medicine. Drs. Rizvi and Mustafa's collaboration with their colleagues from the University of Texas led to a series of three papers on the development of retroviral vectors for gene therapy, all published in major virological journals. Last but not least Professor Nowotny has continued his very productive (11 original research publications in 2003) collaboration with the University of Veterinary Medicine, Vienna, on zoonotic and emerging infections.

The international exposure of the Department was also remarkable as evidenced by several session chairmanships, and invited and selected lectures at major international meetings as indicated below.

T cells biology and immunopathogenesis of infection

Dr al-Ramadi's laboratory is engaged in

several areas. One major focus continues to be related to microbial pathogenesis and immunoregulation in infections. This is being studied using complimentary approaches. One project involves the study of the influence of cytokines in patients with haematological malignancies. The correlation between the level of a number of pro-inflammatory cytokines/chemokines and bacteremia/septicemia is of particular interest to us. A second approach involves the use of inbred mice with genetically-defined susceptibility/resistance to experimental infections. This project is aimed at enhancing the development of suitable vaccines as well as other immunotherapeutic modalities to fight disease. Another major area of research in the laboratory concerns the molecular and biochemical analysis of signalling pathways of novel surface-expressed molecules in T lymphocytes. Currently, the influence of CD43 protein, the most abundant protein on the surface of T cells, on various cell functions is being characterized. Our data indicate that stimulation of T cells via the CD43 pathway has extremely interesting and novel consequences. In fact, triggering the CD43 molecule induces T cell proliferation and cytokine secretion, functions that have hitherto been confined to stimulation via the T cell receptor. Combined with its abundant expression, this unique ability of the CD43 protein may have direct implications for the relationship between innate and adaptive immune responses.

Dr al-Ramadi was invited to chair a symposium as well as a workshop during the 34th Annual Meeting of the Scandinavian Society for Immunology.

New adjuvants for antiparasite vaccines

The main area of **Professor Dissanayake's** current research is the development of immuno-adjuvants and vaccines against cutaneous leishmaniasis. These adjuvants are based on immunomodulatory glycans of another parasite, *Taenia crassiceps*. He has

previously shown that *Taenia* glycans modulate the Th1/Th2 balance in immune responses to defined antigens. Current work has shown that prior immunization with *Taenia* glycans induces protective immunity against *Leishmania mexicana* in Balb/c mice. Mass spectrometric analysis of *Taenia* glycans (in collaboration with Professor Anne Dell, Imperial College, London) have shown the presence of terminal fucosylated Lewis type sugars in *Taenia* and *in-vitro* studies performed at FMHS with synthetic sugars have identified the putative immunomodulatory moieties in *Taenia* glycans as fucosylated Lewis type sugars. Experiments with glycanase digestions are in progress to formally prove this.

The second area of Professor Dissanayake's research is on the role of epidermal growth factor receptor (EGFR) and Bcl family proteins in lung cancer. The primary interest was in determining whether EGF receptor activation promotes up-regulation of anti-apoptotic Bcl proteins and if so, whether this has prognostic and therapeutic applications. In these studies we have seen evidence of heterogeneity of Bcl-2 proteins. Experiments to determine whether EGF stimulates synthesis of its own receptor on cancer cells and the prognostic implications of such stimulation, if any are in progress.

Mycotic infections of high clinical relevance

Dr P Jumaa joined the department recently. She has established collaboration with a number of clinical and academic teams and is currently involved in research projects focusing in the pharmacokinetics and efficacy of two different dosing regimens of liposomal amphotericin b in adult oncology patients.

New areas of research, which she is setting up, include patterns of organisms and *in-vitro* susceptibilities of *Candida* species isolated from invasive *candida* infections. This project expands on collaborative clinical work on Candidemia in which she has al-

ready participated. She is also establishing an investigation of profiles of airborne fungi in the hospital environment in collaboration with the Infection Control and Oncology departments in the hospital.

Molecular basis of effector phase of autoimmune inflammation

Professor Lukic's laboratory was engaged in molecular analysis and therapeutic manipulation of organ-specific autoimmune diseases using the experimental models previously established in his laboratory in close collaboration with Dr. E Mensah-Brown from the Department of Anatomy. They analyzed cellular and molecular events at the level of the target tissue in the animal developing experimental allergic, encephalomyelitis (EAE) or type-I diabetes after treatment with multiple sub-diabetogenic doses of streptozotocin (MLD-STZ).

In the EAE model the group established that early apoptosis of infiltrating cells as evidenced by caspase 3 expression in CNS plays a role in resistance to the induction of clinical disease with concomitant high expression of anti-apoptotic BCL-2 molecules in the target tissue. In the MLD-STZ model the effects of proinflammatory cytokines Interleukin-15 and Interleukin-18 were studied. Using IL18^{-/-} mice, it had been established for the first time that IL-18 is required for the development of insulinitis and induction of type-I diabetes. The outcome of these projects were presented at the major immunological meetings such as European Immunology Meeting (session Chairman's opening lecture), American Association of Immunologists (selected symposium presentation) and Clinical Immunology Society (invited symposium presentation)

Emerging infections and molecular genetics of diseases

In 2003, **Professor Nowotny** and his collaborators continued to work in different research areas, i.e.

- molecular epidemiology/phylogeny of rabies and camelpox viruses isolated in the U.A.E. and in Oman;
- Evaluation of mitochondrial DNA sequences of autistic children from different geographic regions in order to identify possible changes in the mitochondrial gene which may have implications in the development of the disease;
- *Usutu virus* infection, in which Prof. Nowotny has been together with his colleagues at the University of Veterinary Medicine, Vienna, thoroughly investigating several aspects of this emerging virus infection including possible human infections;
- Borna disease virus infections in animals and human beings;
- Studies on different zoonotic infections such as feline orthopoxvirus infections, and
- Phylogenetic analyses of peptides derived from frog-skins with potential antimicrobial activity (PI: Professor Conlon).

Professor Nowotny was invited to give keynote presentations at the 6th International Congress of Veterinary Virology and at the 14th International Congress of the Hungarian Society for Microbiology.

Molecular epidemiology of entero-pathogens

There are two major research projects in **Dr. T Pal's** laboratory. One is the molecular identification and epidemiology of enteric bacterial pathogens. Within this field he has been screening human and animal fecal samples by PCR to detect different diarrhea-causing *E. coli* strains. By studying animal specimens, he has shown for the first time that Shiga toxin producing *E. coli*, an important zoonotic pathogen, is frequently (ca. 10%) carried by farm animals (sheep, goats) in the UAE. Molecular epidemiological studies revealed the presence of a broad variety of clones excluding the possibility of one common source, but

suggesting that these strains are well established in the local animal pool. As an unexpected finding, Dr Pal's lab isolated a Shiga toxin gene positive strain from one of the camel samples as well. No such carriage in this important domestic animal of the Arabian Peninsula has ever been reported before. By PCR-screening of human fecal samples for diarrhea-causing *E. coli* Dr. Pal has shown that particularly the enteropathogenic and enteroaggregative pathotypes are just as common in infants with diarrhea as rotavirus, but have so far never been diagnosed in the UAE. The strains were generally susceptible to antibiotics with the exception of the aggregative isolates. Among them, a very high rate of extended spectrum B-Lactamase (ESBL) production (ca. 10%) was noted, a finding unreported before. According to the preliminary data based on PCR-typing, all these strains seem to express two types of B-Lactamases simultaneously, a TEM and a CTX-type. The second area of research interest is the studying of the antimicrobial effects of various frog-derived peptides. This is carried out in cooperation with Professor JM Conlon, Department of Biochemistry.

Vector systems for gene therapy

The overall focus of **Dr T A Rizvi's** laboratory continued to be RNA packaging among retroviruses with the eventual goal of developing safe and effective vector systems for human gene therapy.

Specifically, they were able to complete the story of delineation of sequences both in *gag* and the untranslated region (UTR) important for packaging of the feline immunodeficiency virus (FIV) RNA. They showed that the first ~ 120 base pairs in the UTR and ~ 100 base pairs in *gag* were important for FIV RNA packaging. These studies were important because FIV vectors are being considered as one of the vector systems of choice for human gene therapy. The presentation of the PI dealing with these studies was awarded the best presen-

tation among the internally funded projects at the Fourth UAEU Research Conference.

They also completed the mutational analysis of the primary and predicted secondary RNA structural analysis of the Mason-Pfizer monkey virus (MPMV) packaging signal. They used in their studies a biologically relevant assay to map for the sequences important for MPMV RNA packaging. Additionally, these studies demonstrated the significance (or lack thereof) of the various structural elements that had been predicted before, and showed that at least within the 5' UTR, it is the primary sequences within the first stem loop that dictate the packaging potential of the virus. Based on this work, the PI was invited to give a talk at the annual Cold Spring Harbor Retrovirus Meeting.

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RESEARCH GRANTS 2003

FMHS New Grants awarded in 2003

Dr. B al-Ramadi

Manipulation of immune responses by vector-encoded cytokines: Implications for the development of rational immunotherapeutic strategies. Funding Agency: Research Committee, FMHS, UAE University. Grant No. NP/01/7 (2001-2004).

Prof S Dissanayake

Mechanism of IL-6 induction by *Taenia crassiceps* carbohydrates stimulated mouse spleen cells, FMHS NP/03/04.

Prof M Lukic

Soluble IL-15 Receptor As Modulator of Autoimmune Diabetes. FMHS/NP/03/15.

Prof N Nowotny

Studies on mitochondrial DNA sequences of autistic children from different geographic regions. FMHS/NP/02/31.

Dr T Rizvi

Delineation of Sequences Involved in the Packaging and Dimerization of FIV Genome. FMHS/CP/03/31.

FMHS Continuation Grants**Dr T Pal**

SHIGA toxin producing *Escherichia coli* in the UAE. UAEU Grant 0110-8-11/3.

Phenotypic and genotypic investigations of curli fimbria among enterotoxigenic, enteroinvasive and Shiga-toxin producing *Escherichia coli*. UAEU, FMHS Grant, CP 02/25.

Terry Fox Cancer Research Grant - 2003**Dr B al-Ramadi**

Analysis of tolerability and efficacy of human recombinant IL-11 in the management of sepsis in leukemia patients undergoing induction or consolidation chemotherapy: Funding Agency: Terry Fox Fund for Cancer Research, UAE. Grant No. 00/3 (2001-2004).

Dr T Rizvi

The Role of Multiple Promoters in the Regulation of Gene Expression by the Mouse Mammary Tumor Virus (MMTV). Terry Fox Fund for Cancer Research. 00/5 (2001-2004).

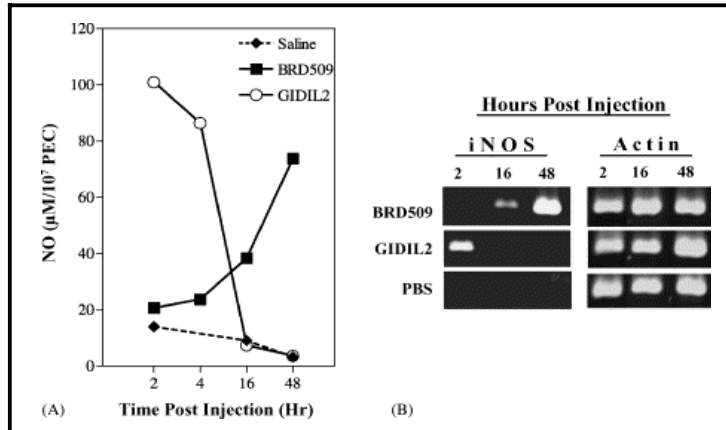
Hamdan Award Medical Research Grant – 2003**Dr T Rizvi**

Development of Feline Immunodeficiency Virus (FIV)-Based Self-Inactivating Vectors and Packaging Cell Lines for Potential Use in Human Gene Therapy. Sheikh Hamdan Bin Rashid Al Maktoum Award for Medical Sciences.

Joint UAEU - Sultan Qaboos University Research Grant**Prof N Nowotny**

Molecular characterization of zoonotic and emerging viruses isolated in the UAE and in Oman. 2003-2004.

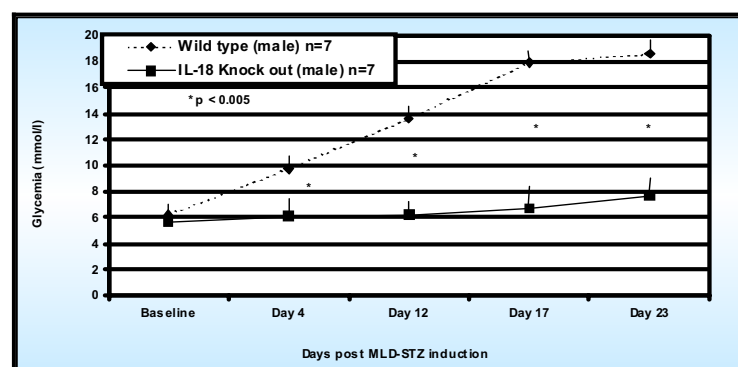
Illustrations of Departmental Research



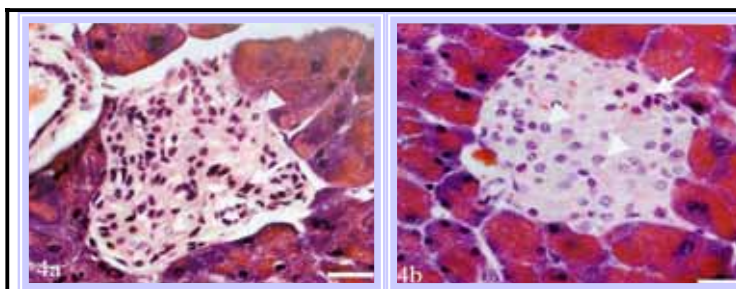
1 - Inoculation of naïve mice with an IL2-expressing, attenuated, *Salmonella* strain (GIDIL2) but not with the parental BRD509 strain that does not express IL-2, induces a rapid NO response as evaluated by nitrate content (1A) and RT-PCR analysis of NOS-3 gene activation (1B).
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2-3 Different stages of a poxvirus lesion (2a-c); electron micrographs showing orthopoxviruses identified in a biopsy specimen of the lesion (3a-b). Hawranek T, et al. *J. Am. Acad. Dermatol.* 2003;49: 513-518.



4- Demonstration of requirements of IL-18 for the development of type 1 diabetes; IL-18^{-/-} mice do not develop insulinitis (4b) in comparison with wild-type mice (4a); nor hyperglycemia (upper panel). Lukic, M.L. et al. *J. Autoimmunity* 21: 239 – 246, 2003.



Department of Obstetrics and Gynaecology

Prof M Ezimokhai	Professor, Chair	Dr N Osman	Technician
Dr S Aswad	Associate Professor	Ms L Thomas	Technician
Dr D Rizk	Associate Professor	Ms K Manickam	Secretary
Dr J Smith	Associate Professor	Ms J George	Secretary
Dr S Al Awar	Assistant Professor		
Dr H Mirghani	Assistant Professor		
Dr Weerasinghe	Assistant Professor		
Dr M Mohammed	Teaching Assistant		

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RESEARCH PROFILE

The Research interest and output from the department can be grouped into three areas: Perinatal Medicine, Oncology, Women's Health and Urogynaecology.

PERINATAL MEDICINE

a) Hypertension and Preterm Labour

Professor M. Ezimokhai in collaboration with basic medical scientists investigates the pathogenesis of pregnancy induced hypertensive and preterm labour by studying vascular and uterine smooth muscle reactivity in normal and pathological pregnancies using both animal and human models. The role of human chronic gonadotrophin in the differences in responses of vascular smooth muscle from pregnancies with certain medical complications is currently under investigation. The influence of the same hormone on uterine smooth muscle responses to oxytocin is also being studied.

Dr. Diaa Rizk is also investigating the effect of hCG on the response of detrusor muscle to stimulating agents.

b) Fetal Medicine

Drs H. Mirghani, S. Weerasinghe and J. Smith are investigating various aspects of Fetal Growth and Wellbeing, using Ultrasonography. Their most recent study shows that the interpretation of biophysical profile, commonly used as an index of fetal wellbeing and sometimes as an indication for intervention in pregnancy, is significantly affected by changes caused by maternal fasting during Ramadan. They are currently investigating the effect of maternal ethnic background on the sensitivity of formulae using fetal ultrasonographic measurements to predict growth and birth weight.

c) Women Health and Urogynaecology

Dr. D. Rizk and others have conducted several epidemiological cross-sectional studies into various aspects of Women's Health with major focus on Urogynaecology. Some of their publications have described the prevalence and impact among UAE women of the Climacteric, Urinary and Faecal incontinence, and satisfaction with Obstetric services. He investigated aspects of faecal and urinary

incontinence , and satisfaction with Obstetric services. He investigated aspects of faecal and urinary incontinence looking at estrogen and progesterone receptors, and response to stimulating agents in isolated detrusor and colonic smooth muscles. He is currently studying the mechanism of Urogenital prolapse in human using M.R.I. technique in collaboration with Radiology Department.

d) Oncology

Dr. S. G. Aswad is conducting large countrywide study to determine prevalence of abnormal cervical smear cytology in order to establish the economic and health benefit of routine cervical smear. As a follow-up on the preliminary results, he is also conducting epidemiological study of the known bacteriological and serological risk factors for carcinoma of the cervix. Meanwhile, he has in collaboration with Tawam Hospital, described the retrospective database and established a frame work for an anterospective database for carcinoma of the cervix in Tawam Hospital.

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RESEARCH GRANTS 2003

FMHS New Grants awarded in 2003

Dr. D E.E. Rizk

Light and microscopic abnormalities of the urinary bladder in streptozotocin-induced diabetes in female rats.

UAE University Grants - 2003

Dr. D E.E. Rizk

Effects of ageing versus ovariectomy on pelvic floor function in a female rat model.

Department of Pediatrics

Prof A Dawodu	Professor, Chairman	Ms S Al Falahi	Research Assistant
Prof L Al Gazali	Professor	Mr A Ibrahim	General Technician
Prof S A Uduman	Professor	Mr T Pramathan	General Technician
Prof Y Abdulrazzaq	Professor	Mr J Kochiyil	General Technician
Dr I Amirlak	Associate Professor	Ms B Wood	Medical Secretary
Dr A Gururaj	Associate Professor	Ms R Clemente	Secretary
Dr L Sztriha	Associate Professor	Mr K Assinair	Secretary
Dr S E Al-Hammadi	Assistant Professor		
Dr P Thompson	Assistant Professor		
Dr B G Balhaj	Teaching Assistant		
Dr M Al Samri	Teaching Assistant		
Dr Fatma Al-Jasmi	Teaching Assistant		
Dr R A M Mahmoud	Teaching Assistant		
Dr S Eisa	Teaching Assistant		
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Standing from left to right: Mr. Jamal, Dr. Gururaj, Dr. G Bal-Haj, Mr. A Ibrahim, Ms. R Clemente, Mr. K Assinair, Dr. S Al-Hammadi, Mrs. B Wood, Mr. J Kochiyil, Mr. Pramathan
Seated from left to right: Dr. L. Sztriha, Dr. P. Thompson, Prof. SA Uduman, Prof. A. Dawodu (Chair), Prof. Y. Abdulrazzaq, Prof. L. Al-Gazali, Dr. I. Amirlak.

RESEARCH PROFILE

GENETICS BIRTH DEFECTS

(CLINICAL & MOLECULAR GENETICS)

The department has a strong research interest in the area of birth defect/dysmorphology and brain malformations including nervous system dysgenesis. Several disorders have been studied at the clinical and molecular level. For example, familial and sporadic forms of cerebral dysgenesis were studied and a new type of agyria-pachygyria associated with agenesis of corpus callosum was characterized, a severe form of a syndrome of myotonia and bone dysplasia was identified to be common in the population of the UAE. These disorders are currently being investigated at the molecular level. A birth defect registry for Al Ain Medical District was established by the department, which has gained membership of the International Clearing House for Birth Defects. Several studies from this register were published identifying the incidence and pattern of the various types of birth defects in this population together with establishing risk factors involved in their etiology. In addition, the group has been investigating the reasons why some anti-epileptic drugs (vigabatrin, lamotrigine) ingested by women during pregnancy cause neural tube and other defects. Departmental researches have already established that these drugs are teratogenic. It was established that methionine was 5 times lower in embryo of treated pregnant mice than in non-treated controls. Studies are ongoing to determine the impact of folic acid and vitamin B12 supplementation on the frequency of occurrence of anomalies in animal models.

The department is also interested in mapping recessive genetic disorders using the concept of homozygosity mapping, particularly disorders which are common or unique to this population. For example, a gene for Joubert syndrome, which seems to be common in Arabs, was mapped to chromosome 9q34.3 and genetic heterogeneity was established. Another new type of epiphyseal dysplasia was described in a

family from UAE and a gene was mapped to chromosome 15q26. Several other disorders are currently being investigated using the same concept.

Metabolic disorders are common in the UAE. The department is active in establishing the prevalence of different metabolic disorders in the UAE population.

PERINATAL NUTRITION

NUTRITIONAL DISORDERS

A group in the department initiated the first study which found a high frequency of low blood vitamin D in UAE women and their newborn infants. The results emphasized the need for vitamin D supplementation in pregnancy and suggested a possible contribution of low vitamin D store at birth in the pathogenesis of infantile rickets seen in the community. The group documented for the first time the correlation between the magnitude of skin exposure and body vitamin D stores and a high frequency of hypovitaminosis D in exclusively breast-feeding infants and their mothers in a sunny environment. The group has also completed studies on the vitamin D status of mothers of rachitic children. These studies suggest the need for increased awareness that vitamin D deficiency is a public health problem in spite of abundance of sunshine.

The department is involved in studies on micronutrients abnormalities in pregnancy and the effect on the fetus/newborn. The preliminary results suggest that micronutrient deficiency is common in pregnancy and outcome studies are in progress.

The department has been active through the years in experiments involving amino acid metabolism. It has established normal amino acid levels at different ages in the UAE population and showed that some amino acids were abnormally high in newborn infants using the then available parenteral amino acid solution. This led to a change in the solutions used in the Medical

District.

The group working on reproductive toxicology has established that aflatoxin (a fungus toxin) contamination of foods is very common, and that aflatoxins have been detected in blood of pregnant women and their offspring in larger amounts than is acceptable. Measurement of aflatoxin in breast milk of lactating mothers is in progress. The results give a much clearer picture of exposure of infants to aflatoxins.

OTHER AREAS OF RESEARCH

Other areas of research include clinical and immunological aspects of hepatitis C, seroepidemiology and neonatal screening of CMV and other congenital infections. Clinical research in neurology includes profile of epilepsy and drug therapy of epilepsy in the UAE as well as brain imaging and epidemiology of cerebral palsy.

Other activities of the department include establishing normal growth charts for children from the UAE from ages 0-18 years, and the size at birth of infants born to UAE nationals. These growth charts will provide the first standards for assessing intrauterine and postnatal physical growth of UAE newly born infants and children.

Outcomes of prematurity, especially in the very-low birthweight and extremely low birthweight groups in the local population

ORIGINAL PEER-REVIEWED SCIENTIFIC ARTICLES

Abdulrazzaq YM, Osman N, Yousif ZM, Al-Falahi S. (2003). Aflatoxin in breast milk. *Annals of Tropical Paediatrics*, 23;173-179.

Abdulrazzaq YM, Al-Gazali LI, Bener A, Hossein M, Verghese M, Dawodu A, Padmanabhan R. (2003). Folic acid awareness and intake survey in the United Arab Emirates. *Reprod Toxicol*, 17 (2);171-176.

Agarwal A, Simha V, Arioglu Oral E, Gordon P, O'Rahilly S, Zaidi Z, Gurakan F, Arslanian SA, Klar

A, Ricker A, White NH, Bindl L, Herbst K, Kennel K, Patel S, Al-Gazali L, Garg A. (2003). Phenotypic and Genetic heterogeneity in congenital generalized lipodystrophy. *J Clin Endocrinol Metab*, 88; 4840-4847.

Al-Gazali LI, Hertecant J, Ahmed R, Khan NA, Padmanabhan R. (2003). Further delineation of Hennekam syndrome. *Clin Dysmorphol*, 12; 227-232.

Al-Gazali LI, Jehier K, Nazin B, Abtin F, Haas D, Sadaghatian R. (2003). Further delineation of Raine syndrome. *Clin Dysmorphol*, 12; 89-94.

Al-Gazali LI, Ravenscroft A, Feng A, Shubber A, Al-Saqqaf A, Haas D. (2003). Stuve-Wiedemann syndrome in children surviving infancy: clinical and radiological features *Clin Dysmorphol*, 2003,12:1-8.

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Brickwood S, Bonthron D, Al-Gazali L, Wilson D, Hanley N. (2003). Wolcott-Rallison syndrome: pathogenetic insights into neonatal diabetes from new mutation and expression studies of EIF2AK3. *J Med Genet*, 40(9); 685-689.

Carter AO, Elzubeir M, Abdulrazzaq YM, Revel AD, Townsend A. (2003). Health and life style needs assessment of medical students in the United Arab Emirates. *Medical Teacher*, 25(5); 492-496.

Chandler KE, A. Kidd, Al-Gazali L, Kolehmainen J, Lehesjoki A-E, Black GCM, Clayton-Smith J. (2003). Diagnostic criteria, clinical characteristics and natural history of Cohen Syndrome. *J Med Genet*, 40;233-241.

Dawodu A, Hossain M, Kochiyil J, Zayed R. (2003). Hypovitaminosis D and vitamin D deficiency in exclusively breast-feeding infants and their mothers in summer: A justification for vitamin D supplementation of breast-feeding infants. *J of Pediatrics*, 142;169-173.

El Ghouzzi V, Dagoneau N, Kinning E, Thauvin-Robinet C, Chemaitilly W, Prost-Squarcioni C, Al-Gazali L, Verloes A, Le Merrer M, Munnich A, Trembath R, Cormier-Daire V. (2003). Muta-

tions in a novel gene Dymeclin (FLJ20071) are responsible for Dyggve-Melchoir-Clausen Syndrome. *Hum Mol Genet*, 12(3); 357-364.

Eapen V, Ghubash R, Zoubeidi T, Younis F, Gururaj AK, Sabri S. (2003). Epidemiological study of developmental and behavioural disorders in 3-year-old children: A UAE study. *Emirates Med J*, 21;237-242

Faivre L, Le Merrer M, Al-Gazali LI, Auems M, Bitoun P, Bacq D, Maroteaux P, Munnich A, Cormier-Daire V. (2003). Homozygosity Mapping of a Desbuquois Dysplasia Locus to Chromosome 17q25.3. *J Med Genet*, 40; 282-284.

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Trad O, Juma P, Uduman SA. (2003). Eradication of Cryptosporidium in four children with acute lymphoblastic leukemia. *J Tropical Pediatrics*, 49;128-130.

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Abdulrazzaq YM, Nan Z, Xin G-K. (2003). Acupuncture in the management of pain (review). *Emirates Med J*, 21(2);128-132.

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PUBLISHED ABSTRACTS, LETTERS, CORRESPONDENCE

Bastaki SMA, Padmanabhan R, Abdulrazzaq YM, Ibrahim A, Nurulain SM. (2003). Changes in maternal and fetal vitamin B12, folic acid and amino acid profiles and intrauterine growth retardation induced by vigabatrin administered during late gestation in mice. *Reproductive Toxicology*, 17; 486-487.

Denic S, Al-Gazali LI. (2003). BRCA1 and BRCA2 mutations in breast cancer patients from Saudi Arabia. *Saudi Med J*, 24;696-697. [Letter]

Dawodu A, Varady E, Verghese M, Al-Gazali LI. (2003). Lethal neonatal malformations in a community with a high consanguineous marriage rate. *Pediat Research*, Supp, page 380A, 2158.

Dagoneau N, Scheffer D, Huber C, Al-Gazali LI, Di Rocco M, Godard A, Martinovic J, Raas-Rothschild A, Sigaudy S, Unger S, Superti-Furga A, Le Merrer M, Bonaventure J, Munnich A, Legeal-Mallet L, Cormier-Daire V. (2003). Null Leukemia Inhibitory Factor Receptor (LIFR) mutations in Stuve-Wiedemann/Schwartz-Jampel syndrome type 2 syndrome. *Am J Hum Genet*, 73; 45.

Gururaj A, Eapen V. (2003). Efficacy and safety of risperidone in children with seizures and hyperactivity. *Dev Med Child Neuro*, 45 (Supplement 97); 44.

Keeler LC, Marsh SE, Woods CG, Gururaj A, Al-Gazali LI, Sztriha L, Gleeson JG. (2003). Linkage analysis in families with joubert syndrome plus oculo-renal involvement identifies the COS2 locus on chromosome 11p12-13.3. *Am J Hum Genet*, 73;1889.

Randolph A, Giunta C, Al-Gazali LI, Kraenzlin ME, Steinmann B. (2003). Nevo syndrome or kyphoscoliotic type of Ehlers-Danlos syndrome (EDS VIA)? *Am J Hum Genet*, 73;1651.

PROCEEDINGS, CONFERENCES, INVITED LECTURES, WEB SITES AND OTHERS

Al-Gazali LI, Hertecant J, Ahmed R, Khan R, Padmanabhan R. Further delineation of Hennekam syndrome. HGM, Cancun, Mexico, 27-30 April, 2003.

Al-Gazali LI. Genetic disorders in the UAE and attitudes toward genetic counseling. International Genetics Congress, Dubai, 9-11 Dec 2003.

Al-Yahyaee S, Al-Gazali LI, Al-Barwany H, Al-Kindi M, Parrado A, Ott J, De Jonghe P, Van Broeckhoven C, Timmerman V, Chand P, Khouli R, Poovathoor J, Guru Raj A, Sztriha L, Bayoumi R. Mapping of autosomal recessive hereditary spastic paraplegia with agenesis of corpus callosum. XIX International Congress in Genetics, Melbourne, Australia, July 6-11, 2003.

Sztriha L, Hofstra RMW, Vos YV, Johansen J. (2003). Cerebral Dysgenesis Associated with LICAM Mutations. International Genetics Congress, Dubai, UAE, 9-11 December 2003.

Dawodu A, Al-Gazali LI, Varady E, Varghese M, Nath K, Rajan V. (2003). Genetic Contribution to High Lethal Malformations in the United Arab Emirates. International Genetics Congress, Dubai, UAE, 9-11 December 2003.

Gururaj AK, V Eapen. 15th Annual Meeting of European Academy of Childhood Disabilities (EACD). Oslo, Norway October 2003. "Safety and efficacy of risperidone in children with seizures and hyperactivity".

Gururaj AK. Emirates Perinatal Society, 12th Scientific Meeting, Al Ain, October 2003. "Sequelae of perinatal hypoxic brain injury".

Gururaj AK. 11th Conference of the Union of Arab Paediatric Societies, Bahrain from 2-5 December 2003. Invited lecture on "Movement dis-

orders in children"

Gururaj AK, Sztriha L, J Hertecant, J Johansen. A d'Azzo. 'MRI findings and novel mutations in GM1 gangliosidosis' International Genetic Congress, Dubai, December 2003;

Gururaj AK. Training course on Child and Adolescent mental health, FMHS, Al Ain January 2003. 'Cognitive & behavioural problems in children with seizures'.

RESEARCH GRANTS 2003

FMHS New Grants awarded in 2003

Dr. P Thompson

The Utility of Transcutaneous Bilirubin Testing in Multiethnic UAE Born Neonates.

Dr. P Thompson

A Retrospective Analysis of Communication Skills of FMHS Undergraduates as Assessed by Examination Performance from Entry into the Medical Sciences Course to Graduation.

Prof L Al-Gazali

Karyotype abnormalities among malformed fetuses detected by ultrasound in multiethnic UAE population.

Prof A Dawodu

Biochemical study of rachitic infants and their mothers.

Prof A Dawodu

Vitamin D and mineral homeostasis in preterm infants in a community with a high maternal hypovitaminosis D: Effect of 400 or 800 IU of vitamin D supplementation.

Dr. L Sztriha

Relationship between epilepsy and hippocampal abnormalities in children.

Prof S Uduman

Seroprevalence of Hepatitis C Virus (HCV) infection in UAE women receiving antenatal care and their infants (Perinatal Transmission) in AAMD. In collaboration with Preventive Medicine Department, MOH. Funded partially by the Department of Pediatrics, FMHS.

Prof S Uduman

RSV Epidemiology and Palivizumab efficacy in preventing severe RSV among the high-risk children in the UAE. Primarily funded by the Abbott Laboratories of the Middle East. 1998 - 2003. Partially funded by the Department of Pediatrics,

FMHS (2000 – current).

Prof S Uduman

Immunological and Longitudinal Clinical assessment of Infants of Toxoplasma and cytomegalovirus (CMV) infected mothers in Al Ain, UAE. A continuation of early FMHS Research funded project.

Hamdan Award Medical Research Grant – 2003

Prof L Al-Gazali

Subtelomeric Chromosome re-arrangement in children with unexplained mental retardation in the population of UAE.

Others

Prof S Uduman

Immunoprophylaxis efficacy in preventing Hepatitis B Virus (HBV) perinatal transmission. In collaboration with Preventive Medicine Department, MoH, AAMD.

Prof S Uduman

Post Immunization clinical and Immunogenicity study of Haemophilus influenzae type b diseases in Al Ain Medical district hospitals.

Department of Pathology

Dr A Castella	Associate Professor, Acting Chairman	Ms A Matera	Senior Technician
Dr M Agarwal	Associate Professor	Ms A Mathew	General Technician
Dr N Chan	Associate Professor	Ms K Al Ghanem	Secretary
Dr Saeeda Al Marzooqi	Teaching Assistant		
Dr Alia Al Bawardi	Teaching Assistant		

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RESEARCH PROFILE

Pathology is a wide-ranging discipline of laboratory medicine. It covers several research fields, including histopathology, cytology, laboratory hematology, clinical chemistry, and genetics and molecular biology.

Histopathology/renal pathology/cytology (Dr. Norman Chan)

Renal diseases are common in the Middle East, yet little has been written on the subject of glomerulonephritis in the Gulf region. Geographical variation in the distribution of the various type of renal/glomerular disease in this region is unknown. We undertake, in collaboration with Tawam Hospital to study the pattern of glomerular disease in the UAE. The aim of this study is to analyze the distribution of the various kind of glomerulonephritis in a native and expat Arab population of the UAE. The results will then be compared with the distribution of glomerulonephritis in other Asian and European countries.

In collaboration with Dr Saad Ghazal Aswad, the epidemiology and the distribution of cervical intraepithelial neoplasia (CIN) are being studied in two groups, an expat and a native population in the UAE. This study collects epidemiological data of

women and correlating with the PAP smear findings. Information collected may serve to aid an advisory council in the initiation of a PAP smear screening program in the UAE.

Hematopathology: (Dr. Antonio Castella)

Lymphomas are malignant monoclonal disorders of the lymphatic system, which show diverse clinical features, pathology and outcome. The pathological classifications are controversial, especially with regard to non-Hodgkins lymphomas (NHL). In recent years new classifications have been proposed which are based on modern concepts of lymphocyte function. The latest classifications of lymphomas (REAL) and (WHO) are an attempt to resolve the lack of uniformity in the reporting of malignant lymphomas by defining the different types according to morphology and immunology as well as cytogenetics.

Although lymphomas show a worldwide distribution, geographical variations in their histopathologic pattern, especially NHL, are well recognized. However, in the Middle East, and specifically in the Gulf countries, there was a paucity of data concerning the patterns of histopathologic subtypes of lymphomas.

The Pathology department undertook a project, in collaboration with Tawam and Al Ain Hospitals, to study the pattern of lymphomas in the UAE.

The aim of this study is to analyze the distribution of the various pathologic types of lymphoma in a native Arab population of the UAE. More than 200 native patients with lymphoma have been now studied. The cases are examined morphologically and immunohistochemically with an extensive panel of monoclonal antibodies, and are classified according to the revised European-American classification of lymphoid neoplasms (REAL). The results are then being compared with the distribution of lymphomas in other Asian and Western countries.

In addition, a second project is under way which studies the differences of the distribution pattern of NHL between native UAE cases and a similar number of cases diagnosed in expatriates living in the UAE.

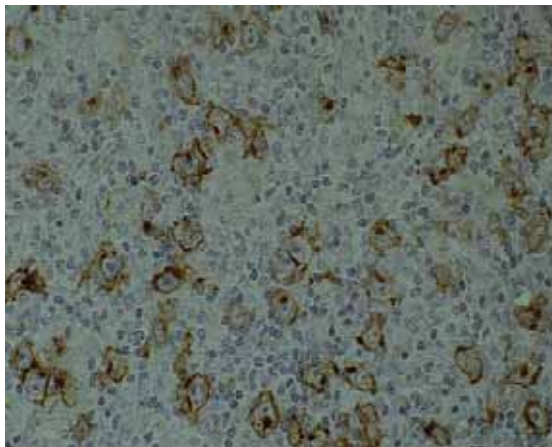


Figure: Immunohistochemistry uses antibodies to identify specific cell types. Here are the malignant Reed-Sternberg cells in a patient with Hodgkin disease (brown color) detected with CD30 antibody.

The results of some of this work have already been published in peer-reviewed journals and presented in International Pathology and Oncology conferences.

Clinical chemistry: (Drs. Mukesh Agarwal)

Gestational diabetes (GDM) is carbohydrate intolerance first recognized in pregnancy. The UAE has a very high incidence of GDM. This is due to a high incidence of both diabetes mellitus and multi-parity. The diagnosis is established by the oral glucose tolerance test, which is cumbersome and strains the laboratory resources. We have been looking for alternative tests which are easier to perform and published 7 papers in peer-reviewed journals. Thus, all our research on this topic has practical clinical value that is applicable to patient care and management.

Departmental Undertaking:

Drs Alia Al Bawardi and Saeeda Al Marzooqi (resident trainees) have initiated a project under the guidance of the faculty members (Drs. N Chan, S Joshi and A Castella). A web-based "COM - Case of the Month" series on interesting cases recently diagnosed in the Al Ain Medical District (AAMD) will be incorporated into the departmental listing under the FMHS website (to appear in 2004). These cases are presented as quizzes and are chosen to illustrate unusual diagnoses seen in Al Jimi and Tawam Hospitals. Classical pathological features and well as explanations with relevant recent publications are presented. In the future, a discussion forum and perhaps a monthly contest for the correct diagnosis of COM will be initiated.

ORIGINAL PEER-REVIEWED SCIENTIFIC ARTICLES:

Chiu LL, Koay ES, Chan NH, Salto-Tellez M. (2003). Sequence confirmation of the EWS-WT1 fusion gene transcript in the peritoneal effusion of a patient with desmoplastic small round cell tumor. *Diagn Cytopathology*. Dec; 29(6): 341-3.

Dawodu A, Agarwal M, Zayed R (2003). Hypovitaminosis D and vitamin D deficiency in exclusively breast-feeding infants and their mothers in summer. *Journal of Pediatrics*: 142: 169-173.

Tagore R, Chua AP, Gopallakrishnan R, Chan NH, Lee EJC. (2003). Acute Interstitial Nephritis in Singapore. Singapore Med J 44(9): 473-481.

Wong PS, Leow CK, Goh PS, Chan NH. (2003). Inferior vena cava leiomyosarcoma. Eur J Cardiothorac Surg. Feb;23(2):241.

**PROCEEDINGS, CONFERENCE,
INVITED LECTURES, WEB SITES AND
OTHERS**

Castella A, Joshi S, Raaschou T, Mason N. (2003). The spectrum of Hodgkin's disease in the United Arab Emirates: an immunopathologic study in 144 patients. 17th Asia Pacific Cancer Conference, Bali, Indonesia, October 11-18.

Agarwal M. (2003). Limitation of the oral glucose tolerance test for gestational diabetes diagnosis. Tenth Annual Workshop on Diabetes Mellitus and its Complications, Al Ain, UAE, March 21.

Tan KB, Hui QL, Wu WTX, Chan NH. (2003). Cell Block Immunocytochemistry Helps in the Differentiation between Adenocarcinomas and Mesotheliomas. The National Health Group Congress, Singapore, Sept 2003. (Best Poster Award for Medicine /Pediatrics category)

Tan KB, Chang SA, Soh VC, Thamboo TP, Nilsson B, Chan NH. (2003). Quality indices in a cervico-vaginal cytology service: before and after laboratory accreditation. Annual meeting, Royal college of Pathologists of Australasia, March 2003. (Best Poster Award for AI/QA category)

Johanson S G, Runnerstam M, Chan NH. (2003). Mobile Intraspinous Tumor with Unusual Histology, the Emirates Neuro Science Society, Emirates Medical Association, May 28.

Department of Pharmacology_____

Prof G Petroianu Prof A Adem Dr MY Hasan Dr S Bastaki	Professor, Chairman Professor Associate Professor Associate Professor	Dr I Chandranath Ms K Arafat Mr SM Nurulain Ms S Duncan	General Technician General Technician General Technician Secretary
		Central Facilities Mr R Sheen Dr M Kosanovic	Senior Technician Chief Technician

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*Standing from left to right: Mr. M Shafiullah, Mr SM Nurulain, Mr R Sheen, Mr C Saeed, Mr. O Naseer,
 Seated from left to right: Ms S Duncan, Dr SI Chandranath, Prof A Adem, Prof G Petroianu, Dr M Kosanovic,
 Ms K Arafat and Dr S Bastaki.*

RESEARCH PROFILE

The Pharmacology Department has special interests in Diabetes and Degenerative Diseases, Neuroscience, Clinical Toxicology

and Gastroenterology. The research is done with state of the art equipment in purpose-built laboratories which good technical and other support.

Studies on Degenerative Diseases and Diabetes

Mechanisms of Apoptotic Cell Death in Diabetes

In almost all multicellular organisms, cell suicide or apoptosis appears to play an important role in the maintenance of cellular homeostasis. Apoptosis is tightly regulated by a set of genes that either promote apoptosis or promote cell survival. Although a number of stimuli appear to trigger the process of apoptosis, there are two major signaling pathways of apoptosis: the death receptor pathway and the death receptor-independent or mitochondrial pathway. Mechanisms of apoptotic cell death are being studied in kidneys of an animal model of diabetes. The ultra structural features in the tubules seem to implicate apoptosis in the pathology of renal nephropathy. In addition we reported, for the first time, a significant loss of foot processes of podocytes (*) in the diabetic rat kidney (Fig.1). These findings could contribute to the understanding of the patho-physiology of diabetic nephropathy.

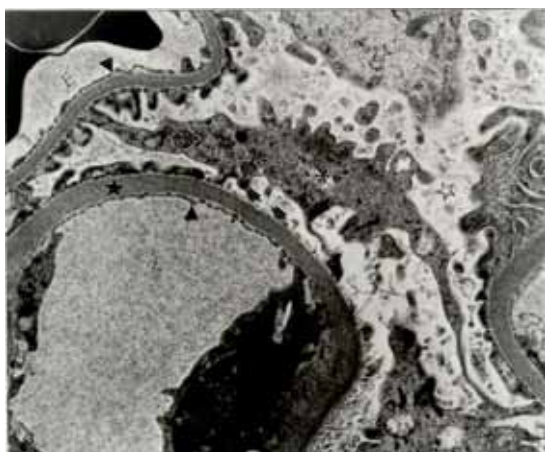


Figure 1

Autonomic Neuropathy in Diabetes

Peripheral neuropathy is a common complication of diabetes, and in some patients the functions of the autonomic nerves that control the heart, blood vessels and internal organs are disturbed. Recently we have focused on an alteration in the metabolism of the transmitter, noradrenaline, and its

precursor, dopamine in the sympathetic nervous system using HPLC (see Fig 2). The findings are consistent with an inability of these nerve fibres to transport essential enzymes from the cell body to the nerve terminals, possibly related to glycation of proteins, which may disrupt intracellular transport mechanisms, or a diminished trophic effect of Nerve Growth Factor.

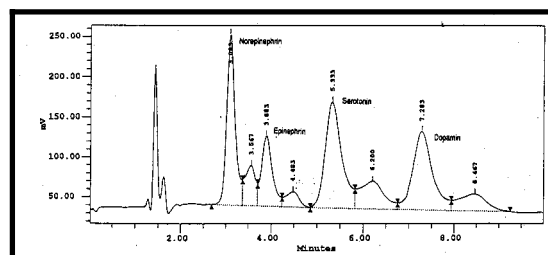


Figure 2

Novel Selective Ligands for Muscarinic Acetylcholine Receptors

Five muscarinic acetylcholine receptor subtypes (M_1 - M_5) have been cloned and are found in the brain. However, the pharmacological identification of the subtypes responsible for the various central effects of the muscarinic drugs is difficult due to the lack of highly selective muscarinic agonists and antagonists. We have isolated muscarinic M_1 and M_4 receptor subtype selective toxins from mamba snake (*Dendroaspis*) venoms. At present the status of M_1 and M_4 receptors in health and disease states in humans are being investigated. Our results show significant decrease of M_4 , but not of M_1 receptors in the hippocampus of Alzheimer's patients compared to controls. Moreover, changes in these receptors in adrenalectomized animal models which have been shown to have a selective loss of hippocampal neurons. Attempts to isolate and characterize M_2 , M_3 , and M_5 selective toxins is also in progress. Behavioral, biochemical and electrophysiological techniques are also used in understanding the role of other neurotransmitters in diabetes, epilepsy, aggressive behavior, aging, and degenerative diseases.

Treatment of Peptic Ulceration

Leptin is produced by fat cells (adipocytes), and is involved in the control of food intake and energy metabolism in humans. Recently, the role of Leptin as a growth factor has been appreciated, and our study investigates its role on the rate of healing of gastric ulcers in rats because some growth factors are known to protect the gastric mucosa.

In a second project the antisecretory and antiulcer activity of the new proton pump inhibitor esomeprazole (EP) are being investigated. The antiulcer properties of EP are being studied in an animal model of peptic ulceration and includes comparisons with other proton pump inhibitors, the role of prostaglandins and nitric oxide in its action, and the molecular site of action on gastric $H^+/K^+-ATPase$.

Clinical toxicology, therapy of acute poisoning, organophosphates

Organophosphorus compounds (OPCs) are esterase (ChE) inhibitors widely used in agriculture, in industry and technology, and in military technology. According to the WHO, more than one million casualties per year are due to OPC exposure. Countries of the Indian subcontinent and adjacent regions top the list. While use of atropine in the therapy of acute OPC poisoning is well-established clinical practice, the use of oxime enzyme reactivators (pralidoxime, PRX) is a hotly debated issue. Recent in vivo (large animal) data from our laboratory shows that PRX produces a spurious signal when ChE is determined photometrically (**P**ralidoxime **I**nduced **E**steratic **P**seudo **A**ctivity; PIEPA) True enzyme protection/reactivation is thus minimal. Furthermore high dose PRX increases the “time-to-extubation (TTE)” and mortality as compared to identical therapy without PRX (animal data). The paradigm of enzyme reactivation in POX poisoning must be reassessed and alternatives developed. Screening of benzamide compounds with ChE

protective capabilities is a present priority of our group. Preliminary experiments performed in our laboratory in vitro and in vivo suggest that the benzamide compound metoclopramide (MCP) is partially protective against esterase inhibition by OPCs.

Health Education

Other studies address the effects of heavy metals on the nervous and immune systems, and on the foetus. The potential protective effects of antioxidants are explored, along with population studies on the incidence of poisoning in the UAE. These studies merge with surveys of **Health education** which focus particularly on the rational use of antibiotics and analgesics and the development of Arabic Sickness Impact Profile tools for measuring quality of life, e. g. in relation to infertility.

Neuroscience

a) Neurotransmission: Studying application of behavioral, biochemical and electrophysiological techniques in understanding the role of neurotransmitters in various disorders (diabetes, epilepsy, aging, degenerative diseases). Findings indicated significant modification of various neurotransmitters in these disorders. Alteration in calcium mobilization and free radical system may be a common factor accounting for some of these changes.

b) Heavy Metals Intoxication: Investigating impact of heavy metals toxicity on nerve and muscle. Free radicals may be involved in metals toxicity and antioxidants like vitamin E & C may have a protective role against metals effects.

Education & Community Health:

a) Drug Utilization: Studying rational use of antibiotics and analgesics in hospitals, primary health care centers and UAE community settings and investigating the incidence of poisoning in the UAE hospitals

and community

b)Health Education: Studying women health issues in the UAE community (age of menopause, urinary incontinence, fecal incontinence and infertility) and developing Arabic Sickness Impact Profile for studying quality of life

c)Medical Education: Studying views of medical students and physicians of clinical skills teaching at the medical college and surveying patient's attitudes towards gynecological practices.

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RESEARCH GRANTS 2003

FMHS New Grants awarded in 2003

Prof. Abdu Adem

Studies in cholinergic activity in Alzheimer's disease and in an animal model of neurodegeneration using novel muscarinic receptor subtype selective ligands.

Prof. Abdu Adem

Novel selective ligands for muscarinic acetylcholine receptors.

Dr. M. Hasan

The Role of Antioxidants in Modulating Lead Induced Neurotoxicity

Dr. M. Hasan

Effects of antioxidant vitamins E and C on morphological and biochemical manifestations in experimental model of neurodegeneration

Dr. S Bastaki

Antisecretory and antiulcer effects of esomeprazole and its mechanism of actions

UAE University Grants – 2003

Prof. Abdu Adem (2001-2003).

Interdisciplinary project: Use of anti-diabetic herbs in the United Arab Emirates: Assessing community perception and searching for potential novel anti diabetic drug candidates.

Prof. Abdu Adem

Trace element profile of Type II Diabetic patients in the United Arab Emirates.

Dr. MY Hasan

Biochemical and morphological manifestations in experimental rat model for neurodegeneration: UAE University, Research Sector

Department of Physiology

Prof J Morrison	Professor, Chairman	Mr S Singh	Senior Technician
Prof T El Sharkawy	Professor	Mr S Dhanasekaran	General Technician
Prof M Fahim	Professor	Ms B Stephen	General Technician
Prof W Lammers	Professor	Mr M Qureshi	Assistant Technician
Dr M Ljubisavijevic	Associate Professor	Mr P Rajagopalan	Secretary
Dr C Howarth	Associate Professor	Mr Saeed	Office Assistant

Tel: 7672000 / Fax: 7671966 / <http://www.fmhs.uaeu.ac.ae/Departments/Physiology>

RESEARCH PROFILE

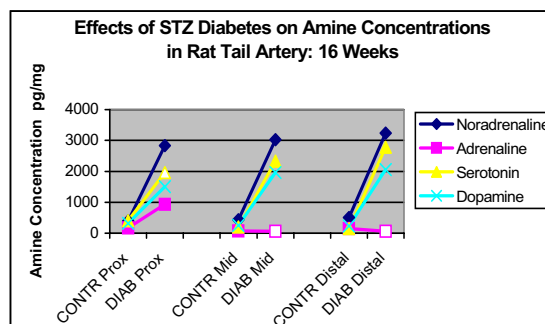
Members of Staff of the Physiology Department have interests in neuroscience and muscle (including skeletal, cardiac and smooth muscle). The experimental work includes normal physiology as well as patho-physiology, particularly in relation to the peripheral nerves, autonomic nervous system, and heart in the diabetic state, which is a common disorder in the United Arab Emirates. The work requires complex electrophysiological and cellular methodologies, as well as electron microscopy, using in vitro and in vivo techniques.

DIABETIC NEUROPATHY

Peripheral neuropathy is a common complication of diabetes. The patient experiences tinglings and numbness, and/or pins and needles in the extremities, and the sensory disturbance may progress to a burning pain in the hands and feet. The patient may also have difficulty in manipulating small objects because of muscle weakness in the hands. Typically diabetic neuropathy affects the longest nerve fibres in the body. In some patients the function of the autonomic nerves that control the heart, blood vessels and internal organs are also disturbed. These patients experience dizziness or fainting on standing, and may have

functional disturbances in their gastrointestinal or urogenital systems.

The aim of our research is to understand some of the changes in autonomic nerves that accompany prolonged high blood sugar or diabetes in an experimental model. Recently we have demonstrated a length-dependent changes in noradrenaline and other amines in the sympathetic nervous system. The long nerve fibres of the sympathetic nervous system show an increased concentrations and altered metabolism of the transmitter, noradrenaline, and its precursor, dopamine, as well as of other amines. The diagram below compares the effects of STZ diabetes on the amine concentrations in the rat tail artery in different sections of the vessel. Experiments are being conducted that look at the release of amines from these autonomic nerve terminals, supported by a grant from the Sheikh Hamdan Medical Research Foundation.



More recently we have been developing a model of Type II diabetes, and similar studies have commenced using this model.

AGING AND NEURODEGENERATIVE DISORDERS

Studies on **aging and neurodegenerative disorders** have focused on synaptic plasticity and synaptic remodelling, particularly at the nerve-muscle junction in various peripheral neuropathies including those caused by diabetes, aging and heavy metal poisoning. Electrophysiological techniques and electronmicroscopy are used in combination to focus on changes in muscular performance in these conditions. It is hypothesised that free radicals are involved in these nerve injuries and antioxidants like vitamin E & C may have a protective role. Studies on the cerebral microcirculation include changes in the susceptibility to thrombus formation in the brain, and the effects of metals, aspirin and heat.

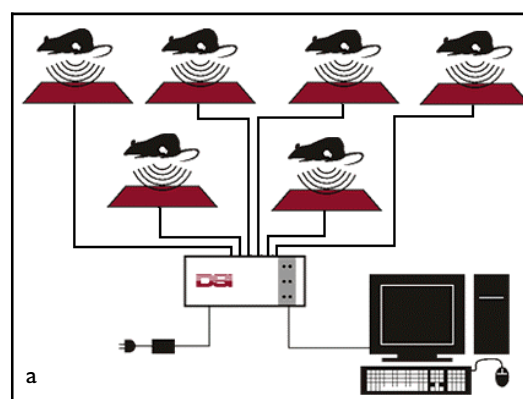
MUSCLE

The dynamics of the control of the muscles is another focus of activity involving electrophysiology and mathematical modelling, and seeks explain the influence of various physiological and pathological conditions on changes in muscle performance. In particular, the effects of chronic ischemia and muscle fatigue are currently being investigated. The model of chronic ischemia induced in vivo by femoral artery occlusion is employed; the effects of exogenously applied Neuropeptide-Y (NPY) are of interest because the angiogenesis and revascularisation it can induce are used as tools to alter the dynamic properties of skeletal muscle. Changes in muscle dynamics are estimated by monitoring various parameters i.e. EMG, twitch force, force/time integral, etc. during various non-fatiguing and fatiguing protocols induced by electrical stimulation of muscle nerves and ventral spinal roots. The results are relevant for better understanding of changes of intra-muscle dynamics in

various conditions and probing the possibility that NPY may be a potential drug in treatment of ischemic disease.

DIABETES AND HEART FUNCTION

Cardiovascular complications are the most common causes of morbidity and mortality in diabetic patients. Diabetic cardiomyopathy is associated with a variety of cardiac dysfunctions, which are independent of vascular complications. We are currently investigating the mechanisms that underlie contractile defects in cardiac muscle in various experimental models of diabetes. Much of our research is conducted in cardiac myocytes isolated from different regions of the heart. Recent projects have included an investigation of contraction and Ca^{2+} transport in myocytes from C57BL/6J mice which have a genetic susceptibility to develop diabetes when fed a high-energy diet. We have also investigated the effects of multiple low-dose or single high-dose streptozotocin on contraction and Ca^{2+} transport in ventricular myocytes from diabetes resistant and susceptible rats. The recent purchase of a telemetry system (figure 1) is enabling us to remotely monitor the acute and chronic effects of diabetes on electrical activity of the heart and various other experimental parameters. Telemetry data can provide the basis for further detailed studies of different components of the electrical conduction system of the heart, for example the distribution of connexin-43 which is an important gap junction protein, using immunolabelling/confocal techniques (figure 2).



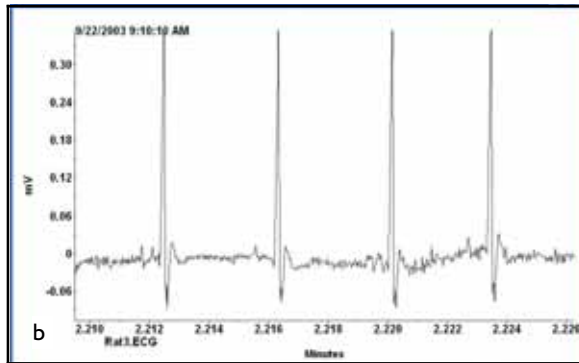


Figure 1 – Telemetry system (a) and typical ECG data (b)

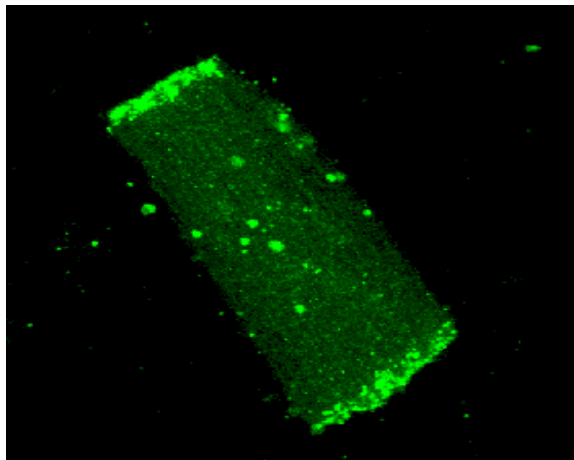
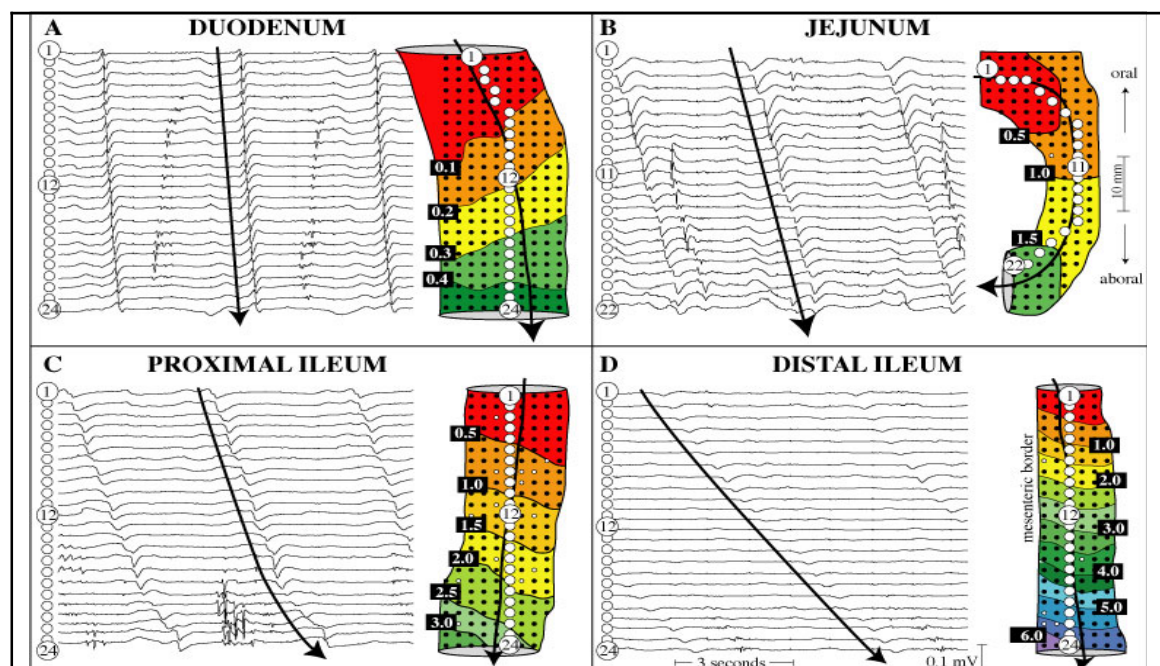


Figure 2 – Connexin-43 labeling in a rat ventricular myocyte. Labeling is particularly obvious at the ends of the cell.

SMOOTH MUSCLE ELECTRICAL MAPPING IN VIVO

In the past several years, the smooth muscle mapping technique that had been developed in the department in Al Ain for in vitro recordings was expanded to the in vivo situation. In collaboration with Drs L Ver Donck and J Schuurkes, department of Gastrointestinal Pharmacology, Janssen Pharmaceutica, in Beerse, Belgium, we were able to record potentials from 200-240 electrodes simultaneously and to reconstruct patterns of propagation of the slow wave along the length of the small intestine. The figure shows examples of electrograms and propagation maps of the slow wave at four different levels. Noteworthy is the fact that, next to the well known reduction in frequency of the slow wave (visible as a slight increase in slow wave intervals), there was a marked reduction in conduction velocity along the intestine. This enables us, for the first time ever, to calculate the wavelength of the slow wave along the small intestine. This parameter, which determines the maximal length of individual contraction waves, varies from 32 cm in the duodenum to 3 cm in the ileum; suggesting major differences in contraction pattern in the small intestine.



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Lammers WJEP, Dhanasekaran S, Memon IK, Stephen B, Slack JR. (2003). Electrical and motility analysis of pendular, segmental and peristaltic contractions in the isolated rabbit ileum. *Gastroenterology* 2003, 124, A163.

Lammers WJEP, Ver Donck L, Schuurkes JAJ, Stephen B. (2003). Longitudinal and circular spike patches revealed with high-resolution electrical mapping in the canine small intestine in vivo. *Gastroenterology* 2003, 124, A163.

Morrison JFB, Dhanasekaran S, Sheen R. (2003). The time course of changes in amine concentrations in the rat tail artery following induction of diabetes with streptozotocin. *International Journal of Diabetes & Metabolism*, 11, 34.

Morrison JFB and Sheen, R. (2003). Length-dependent changes in sympathetic nerves of streptozotocin-induced diabetes in rats. *Autonomic Neuroscience*, 106: 57

Singh J, Qureshi MA, Howarth FC. (2003). Effects of acidosis on contraction and intracellular Ca^{2+} in ventricular myocytes from streptozotocin-induced diabetic rat. *International Journal of Diabetes & Metabolism*, 11, 22.

Ver Donck L, Lammers WJEP, Schuurkes JAJ. (2003). A model to record slow wave activity in the duodenum of the conscious dog. *Gastroenterology* 2003, 124, A164.

Woodall A, Singh J, Howarth FC, Bracken NK. (2003). Halothane inhibits contraction and calcium mobilization in streptozotocin-induced diabetic rat ventricular myocytes. *International Journal of Diabetes & Metabolism*, 11, 26.

Zhan W-Z, Mantilla C, Fahim M, Sieck G. (2003). Synaptic vesicle release and cycling at type identified diaphragm muscle neuromuscular junctions following C2 spinal hemisection or tetrodotoxin phrenic nerve blockade. *FASEB J.* 17 (3): 532.

PROCEEDINGS, CONFERENCES, INVITED LECTURES, WEB SITES AND OTHERS

Alshuaib WB, Hasan MY, Fahim MA. (2003). Increased calcium influx through acetylcholine receptors in dunce neurons. 33rd Annual Meeting of the Society for Neuroscience, New Orleans, LA.

Fahim MA, Hasan MY, Alshuaib WB. (2003). Serotonin reduces potassium current in rutabaga and wild-type drosophila neurons. 33rd Annual Meeting of the Society for Neuroscience, New Orleans, LA.

Howarth FC, Qureshi MA. (2003). Effects of decreased pH on contractile function of ventricular myocytes from streptozotocin-induced diabetic rat, The 4th Annual UAE University Research Conference, Intercontinental Hotel, Al Ain, MHS; 10-12.

Kalezic I, Bugaychenko LA, Kostyukov AI, Pilyavskii AI, Ljubisavljevic M, Windhorst U, Johansson H. (2003). Modulation of the monosynaptic reflexes of the gastrocnemius soleus muscle after their fatiguing stimulation in decerebrate cats. Sixth World IBRO Congress of Neuroscience, July 10-15, Prague, Czech Republic.

Lammers WJEP, Dhanasekaran S, Stephen B, Slack J. (2003). Direction of slow wave propagation determines direction of pendular contractions. XIX International Meeting Neurogastroenterology & Motility, Barcelona, Spain

Lammers WJEP, Ver Donck L, Schuurkes JAJ. (2003). Variations in extracellular waveforms in different parts of the small intestine. 1st EMG telemetry user group meeting, March 2003, Beerse, Belgium (invited talk)

Lammers WJEP, Ver Donck L, Schuurkes JAJ, Stephen B. (2003). Spikes in the canine small intestine propagate in either the longitudinal or the circular direction. XIX International Meeting

Neurogastroenterology & Motility, Barcelona, Spain

Lammers WJEP. (2003). Electrical activities in the pregnant uterus. Department of Obstetrics, Arkansas Medical School, May 2003, Little Rock, Arkansas, USA (invited talk)

Lammers WJEP. (2003). Electrical activities in the small intestine. Russian State Medical University, May 2003, Moscow, Russia (invited talk)

Lammers WJEP. (2003). New Techniques and Insights in the Study of Small Intestinal Motility XIX International Meeting Neurogastroenterology & Motility, Barcelona, Spain (invited talk)

Ljubisavljevic M, Bugaychenko LA, Kalezić I, Kostyukov AI, Pilyavskii AI, Windhorst W, Johansson H. (2003). Fatigue-related changes of triceps suare motoneurone activity induced by stretch in decrebrate cats. 3rd FEPS Meeting, 28 June - 2 July Nice, France.

Morrison J. (2003). Contemporary Views on Sensory Processing by Bladder Afferents. Delivered to Pfizer plc, Sandwich, Kent UK, April 23rd 2003.

Morrison JFB, Dhanasekaran, S, Rajan S. (2003). The time course of changes in amine concentrations in the rat tail artery following induction of diabetes with streptozotocin. 10th Annual Workshop on Diabetes Mellitus – Diabetes Mellitus and its Complications” – An update, Intercontinental Hotel, Al Ain.

Rowley KL, Mantilla CB, Fahim MA, Zan WZ, Sieck GC. (2003). Inactivity-induced plasticity of synaptic vesicle cycling. 33rd Annual Meeting of the Society for Neuroscience, New Orleans, LA.

Singh S, Fahim MA. (2003). Protective effects of vitamin-C against hyperthermia induced hypertension in mice. 16th Iranian Congress of Physiology & Pharmacology, Theran-Iran, p 340.

Ver Donck L, Lammers WJEP, Schuurkes, JA. (2003). A method to map slow wave activity from the small intestine of the conscious dog. XIX International Meeting Neurogastroenterology & Motility, Barcelona, Spain

Wang XY, Lammers WJEP, Bercik P, Huizinga JD. (2003). Co-ordination of antro-duodenal peristalsis despite absence of slow waves and ICC-AP in pylorus. XIX International Meeting Neurogastroenterology & Motility, Barcelona, Spain

RESEARCH GRANTS 2003

FMHS New Grants awarded in 2003

Prof J Morrison

FMHS NP/01/32 (with Professor A Adem, to support the ICPMS) Trace Elements in Diabetes

Dr FC Howarth

FMHS Project Grant (NP/03/05) entitled: Effects of single high-dose (SHD) and multiple low-dose streptozotocin (STZ) on contraction and Ca²⁺ transport in ventricular myocytes from MLD-STZ diabetes resistant and susceptible rats.”

Dr Milos Ljubisavljevic

Neuropeptide Y induced changes in contractile and electrical properties of hind limb muscles in streptozotocin diabetic rats. One year FMHS Grant, 2003.

UAE University Grants - 2003

Prof M Fahim (2 years; 2002-03)

Actions of behaviourally active agents on central neurotransmission and cerebral microcirculation.

Dr FC Howarth

Mechanisms underlying the progressive long-term effects of type 2 diabetes on heart muscle function.

Dr FC Howarth

The progressive effects of diet-induced diabetes on the structure and function of cardiac muscle in a genetic mouse model of type 2 diabetes.

Hamdan Award Medical Research Grant /2003

Prof J Morrison

Diabetic Autonomic Neuropathy (with Professors Adem, Conlon, and Drs Mensah-Brown and Ljubisavljevic).

Department of Psychiatry

Prof O El-Rufaie	Professor, Chair	Mr Saeed Yousef	Technician
Dr R Ghubash	Associate Professor*	Mr D Ranganathan	Secretary
Dr V Eapen	Associate Professor	Mr M Govindan	Secretary
Dr A S Abdel Maeguid	Assistant Professor	Mr S Sabri	Administrative Assistant
Prof R Raguram	Visiting Professor	Mr O Pocker	Office Assistant
Professor M Sadeghi	Professor*		
Dr M A A Sayed	Assistant Professor*		
Dr L Amiri	Teaching Assistant		

* Joint Appointments with the Dept. of Psychology, Faculty of Humanities and Social Sciences.

*President, Arabian Gulf University, Bahrain.

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RESEARCH PROFILE

Throughout the year 2003, the Department of Psychiatry was severely handicapped by shortage of academic staff; there were only two to three faculty members. However, the department managed to continue with its research strategy, hand in hand with the commitments in other areas. Broadly these research activities fall into six general themes.

1. Epidemiological aspects of common mental health conditions in the community and in primary care settings

- Developmental and behavioural problems in pre-school children in the UAE in collaboration with the Departments of Paediatrics & Community Medicine (FMHS) and the Department of Statistics, Faculty of Business and Economics. (funded by Sheikh Hamdan Bin Rashid Al Maktoum Award).
- Mental disorder among the elderly UAE population (funded by Sheikh Hamdan Bin Rashid Al Maktoum Award).

- Cognitive functioning among type 2 diabetic patients: A primary care controlled study.
- Eating attitudes and disorder among adolescents in the UAE.
- Child psychiatric disorders in primary care.
- First-episode psychosis presenting at the psychiatric department of Al-Ain Hospital.
- A study on the primary care referrals to the psychiatric department of Al-Ain Hospital.

2. Personality, psychosocial and transcultural aspects of physical illness

- Psychosocial aspects of paediatric cancer: Influence on compliance, coping and recovery (funded by Terry Fox Cancer Research Fund).
- Personality disorders and personality traits among type 2 diabetic patients: As-

sociation with blood glucose control.

3. Cultural aspects of psychiatry

Help seeking behaviour of psychiatric patients before attending the psychiatric services at Al-Ain Hospital.

4. Psychiatric Genetics

- a) A study examining the genetic aspects of nocturnal enuresis in collaboration with the Department of Biochemistry and Medical Genetics, Sultan Qaboos University, Muscat.
- b) Family and phenomenological aspects of Obsessive Compulsive Disorder in collaboration with Prof. D. Pauls, Neurodevelopmental Genetics Unit, Harvard, USA.
- c) Studies on mitochondrial DNA sequences of autistic children from different geographic regions in collaboration with Department of Microbiology FMHS and Institute of Virology, Vienna, Austria (funded by FMHS research grant).
- d) Subtelomeric chromosome rearrangements in children with unexplained mental retardation in the population of the UAE in collaboration with the Department of Paediatrics, FMHS (funded by Sheikh Hamdan Bin Rashid Al Maktoum Award).
- e) Research regarding the genetics of brain malformations, autism and non-syndromic mental retardation in collaboration with Prof. C. Walsch, Howard Hughes Medical Institute, Harvard, Boston, USA.

5. Translation, development and validation of psychiatric instruments for use among Arabic speaking population.

- a) Child Behaviour Checklist 2-3 years.

- b) School Mental Health Screening Questionnaire.

- c) Primary Health Questionnaire (a multi-centre study involving UAE, Jordan and India).

6. Family and phenomenological study on Tourette Syndrome

Ongoing collaborative projects with Prof. M. Robertson at University College London Medical School, London, UK.

ORIGINAL PEER-REVIEWED SCIENTIFIC ARTICLES

Eapen V, Mabrook AM. (2003). Prevalence and correlates of Nocturnal Enuresis in the U.A.E. Saudi Medical Journal 24(1); 49-51.

Gururaj AK, Sztriha L, Bener A, Dawodu A, Eapen V. (2003). Epilepsy in children with cerebral palsy. Seizure 12(2); 110-114.

Eapen V, Revesz T. (2003). Psychosocial correlates of Paediatric cancer in the UAE. Supportive Care in Cancer 11(3); 185-189.

Eapen V, Jakka ME, Abou-Saleh MT. (2003). Children with Psychiatric Disorders: The Al Ain Community Psychiatric Survey. Canadian Journal of Psychiatry 48; 402-407.

Eapen V, John G. (2003). Motherhood and mental illness. Postgraduate Doctor (Caribbean) 19(3); 88-92.

Eapen V, Ghubash R, Zoubeidi T, Yunis F, Gururaj AK, Sabri S. (2003). Epidemiological study of developmental and behavioural disorders in three year old children: A UAE study. Emirates Medical Journal 21 (3); 237-242

Kulhara P, Avasthi A. (2003). Influence of depressive symptoms and premorbid adjustment on factor structure of phenomenology of schizophrenia: a study from India. European Psychiatry 18(5), 226-232.

Salem MO, Attia H, Sabri S. (2003). Prevalence of Substance Misuse in First Episode Psychosis – 5 years Retrospective Study. Current Psychiatry 9 (3), 294-298.

Sayed M. (2003). Psychotherapy of Arab patients in the West: Uniqueness, Empathy and Otherness." American Journal of Psychotherapy 57(4); 445-459.

Sayed M. (2003). Conceptualization of Mental Illness Within Arab Cultures: Meeting Challenges in cross-cultural Settings. Journal of Social Behavior and Personality: An International Journal 31(4); 333-342.

Singh G, Sharan P, Kulhara P. (2003). Role of coping strategies and attitudes in mediating distress due to hallucinations in schizophrenia. Psychiatry and Clinical Neuroscience 57(5), 517-522.

Singh G, Sharan P, Kulhara P. (2003). Phenomenology of hallucinations: a factor analytic approach. Psychiatry and Clinical Neuroscience 57 (3), 333-336.

BOOKS, CHAPTERS, REVIEWS AND EDITORIALS

Eapen V, Yakely J, Robertson MM. (2003). Gilles de la Tourette Syndrome and Obsessive Compulsive Disorder. In: Neuropsychiatry 2nd Edn, Editors: Fogel BS, Schiffer RB, Rao M. Lippincott Williams and Wilkins, Baltimore, pp.947-990.

Raguram R. (2003). On delusions and depersonalization. OSCEs in Psychiatry. Ed Michael A, Churchill Livingstone.

PROCEEDINGS, CONFERENCES, INVITED LECTURES, WEB SITES AND OTHERS

Eapen V. (2003). Origin and meaning of illness across cultures: Implications for family therapy. 15th International Congress of the International Association of Group Psychotherapy, Istanbul, Turkey, August 25-29.

Eapen V, Ghubash R, Salem MO, Sabri S. (2003). Familial predictors in Childhood shyness: A UAE Study. International Genetics Congress, Dubai, December 9-11.

Sayed M. (2003). Arab Conceptualizations of Mental Health and Contemporary Treatment Practices. Invited Lecture at Topeka Psychoanalytic Society. Topeka, Kansas, USA, August 6.

Salem M.O. (2003). Spiritual Support Group: The Medway Hospital Experience. The Annual Meeting of the Royal College of Psychiatrists, Edinburgh, UK.

RESEARCH GRANTS 2003

Hamdan Award Medical Research Grant – 2003

Dr. Rafia Ghubash

Mental disorder and cognitive impairment among the elderly UAE population

Co-Investigators: Professor Omer El-Rufaie, Dr. T. Zoubeidi, Dr. Qasim M. Al-Shboul, Mr. Sufyan M. Sabri

Dr. V. Eapen

Epidemiological study of developmental and behavioural disorders in 3 year old children

Co-Investigators: Dr. Rafia Ghubash, Dr. T. Zoubeidi, Dr. P. Younis, Dr. A.K. Gururaj

Terry Fox Cancer Research Grant – 2003

Dr. V. Eapen

Familial and psychosocial aspects of paediatric cancer: Influence on compliance, coping and recovery Co-Investigators: Dr. A. Srinivasan, Dr. L.I. Al-Gazali, Dr. N. Ali

Departmental Grants

The department obtained Dhs.30,000 as departmental grant at the rate of Dhs.5000 each for 6 faculty members and most of the money was spent towards casual labours on the following three projects:

1. Personality disorders and personality traits among type 2 diabetic patients: Association with blood glucose control (Omer El-Rufaie)
2. Association between shyness and maternal social phobia (Valsa Eapen)
3. Help seeking behaviours of the psychiatric patient (Mohamed Omar Salem)

Department of Radiology

Prof L Ekelund Prof J Johansen Prof R Langer	Professor, Chairman Professor Professor	Ms S Al Habsi	Secretary
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Tel: 7672000 / Fax: 7670767 / <http://www.fmhs.uaeu.ac.ae/Departments/Radiology>

RESEARCH PROFILE

Our research is based upon the application of modern imaging technology in clinical medicine with the following methods:

- Magnetic Resonance Imaging [MRI]
- Computer Tomography [CT]
- Ultrasound [US]

Participation in the newly founded Neuroscience and Trauma Groups of the Faculty is expected to lead to more interdisciplinary studies in these fields.

ORIGINAL PEER-REVIEWED SCIENTIFIC ARTICLES

Czechowski J, Bakardjieva F, Joseph M, Mohamed N, Johansen J. (2003). Usefulness of radiology and MRI in caudal regression syndrome. *Emirates Med J* 21(3); 247-251

Sztriha L, Espinosa-Parrilla Y, Gururaj A, Amiel J, Lyonnet S, Gerami S, Johansen JG. (2003). Frameshift mutation of the zinc finger homeo box 1 B gene in syndromic corpus callosum agenesis (Mowat-Wilson syndrome) *Neuropediatrics* 34;322-325

PUBLISHED ABSTRACTS, LETTERS, CORRESPONDENCE

Langer R, Ekelund L, Al Gazali E, Varady P. Raupp: Ossaere Manifestationen beim

Schwartz-Jampel Syndrom *Fortschr. Roentgenstr.* 175, 2003, 292.

PROCEEDINGS, CONFERENCES, INVITED LECTURES, WEB SITES AND OTHERS

Ekelund L, Czechowski J, Rizk dE. (2003). Dynamic assessment of the pelvic floor in a multi-ethnic nulliparous and healthy female population. *ESUR 2003*, Uppsala, Sweden.

Johansen JG. (2003). Imaging of cervical spine injuries. 11th UAE Surgical Conference, Abu Dhabi.

Johansen JG. (2003). Imaging of cranial gunshot wounds. 2nd Emirates Neuroscience Conference, Dubai.

Johansen JG. (2003). Mobile lumbar intraspinal tumor with unusual histology. *Emirates Neuroscience Society Meeting*.

Department of Surgery

Prof F J Branicki	Professor, Chairman	Ms M Al Mansouri	General Technician
Prof F Safi	Professor	Ms M Thomas	Assistant Technician
Prof NO Tjernstrom	Professor	Mr Abdulla Jamal	Departmental Secretary
Dr D Younge	Professor	Mr Aboobacker	Office Assistant
Dr F Abu-Zidan	Associate Professor		
Dr K Lunsjo	Associate Professor		
Dr F Torab	Assistant Professor		
Dr S Al Bakr	Teaching Assistant		
Dr Ali Al Belooshi	Teaching Assistant		
Dr Z Al Fardan	Teaching Assistant		
Dr Ali Jawas	Teaching Assistant		
Dr T Mahmoud	Teaching Assistant		
Dr K Al Mansouri	Teaching Assistant		
Dr S Al Thani	Teaching Assistant		
Dr A Al Olama	Teaching Assistant		

Tel: 7672000 / Fax: 7670767 / <http://www.fmhs.uaeu.ac.ae/Departments/Surgery>



*Standing from left to right: Mr. Abdulla Jamal, Dr. Fikri Abu Zidan, Dr. Fawaz C Torab, Dr. Karl Lunsjo, Dr. Abdulkareem Al Olama and Mr. Aboobacker
Seated from left to right: Prof. Derek Younge, Prof. Frank J Branicki, Prof. Farouk Safi and Ms. Maya Thomas*

RESEARCH PROFILE

From 1999 until 2001 Prof. Branicki was the sole General Surgeon in the Faculty. The appointments of Dr. Fawaz Torab (March 2001) and Dr. Fikri Abu Zidan (July 2001) and Professor Farouk Safi (September 2002) have now enabled the pursuit of subspecialty interests in upper gastrointestinal/bariatric surgery, trauma care and hepatobiliary/colorectal surgery. Prof. Tjernstrom, an Otorhinolaryngologist, has expertise in Head and Oncology and has been in post for 9 years. In addition, two orthopaedic surgeons have been appointed Dr. Karl Lunsjo (October 2001), who has interests in shoulder injuries and pelvic fractures and Professor Derek Younge (August 2003) with expertise in the management of hand and brachial plexus injuries and musculoskeletal tumours in particular. Our Teaching Assistants currently completing Residency training in Canada include, Dr. Ali Al Belooshi and Dr. Saeed Al Thani (Orthopaedics), Dr. Zuhair Al Fardan (Plastic and Reconstruction Surgery), Dr. Saeed Al Bakir and Dr. Tahira Mahmoud (Ophthalmology) and Dr. Ali Mohamed Jawas (General Surgery). In addition, Dr. Khaled Khader Ali Mohamed Al Mansouri has recently completed his Residency Training in Ophthalmology and has been appointed as Assistant Professor in the Faculty. He is currently undertaking a Fellowship in posterior chamber surgery in Toronto. Dr. Abdul Kareem Mohamed Ali Sultan Al Olama acted as the General Conference Coordinator of the Second Scientific Conference for Medical Students in the GCC Countries which was held in Al Ain in January 2004 with the participation of more than 600 students drawn from 32 countries. He has now been appointed as a Teaching Assistant in the Faculty and following internship wishes to pursue a career in cardiac surgery.

The Faculty members in the Department have increased from four (1999) to eight currently with three advertised positions (breast/endocrine surgery, minimal access

surgery and neurosurgery) yet to be filled. Currently, the Department lacks a senior laboratory position (not replaced after resignation of the incumbent in 1998). Following the recent resignation of an Assistant Technician, only one general technician is in post (Ms. Maya Thomas), who is also working part time for the Department of Anatomy.

The Department has computerized its teaching materials (Blackboard) and is involved in clinical and as well as basic science research activities to a limited extent. Faculty are also heavily involved in administration of research activities – these include the Chairs of Research Grants Committee, (Prof. Branicki, 2000-to date), Research Ethics Committee (Dr. Fawaz Torab, 2002-to date), Trauma Strategic Research Priority Group (Dr. Fikri Abu Zidan, 2002-to date) and Oncology Strategic Research Priority Group (Prof. Tjernstrom, 2002-to date). Profs. Branicki and Tjernstrom and Drs. Torab and Fikri are members of the Research Advisory Board and Prof. Safi is a Member of the Research Grants Committee and the Oncology Research Group, as is Prof. Branicki. Associate Professor Dr. Fikri Abu Zidan has just been awarded Faculty's Distinguished Performance Award for Teaching and Research.



The Department has organized a number of CME/CPD activities of late including an International Surgical Conference with more than 600 delegates held in Abu Dhabi in October 2003. This was highly successful

with fourteen invited international Faculty and 72 free paper presentations of research activity from the UAE and elsewhere. The Department raised 75% of funding required for the meeting from corporate sponsorship.

Dr. Torab is completing studies to evaluate resorption capacity of inflamed peritoneum in the pathogenesis of systemic sepsis in an acute peritonitis model. This work involves measurement of endotoxin and cytokines, the gastrointestinal tract being the primary source of endotoxin as a result bacterial translocation. The work was facilitated by summer electives undertaken in 2003 by female medical students at the Faculty. Results were presented in the GCC Students Conference and one of the students also presented the findings, under the supervision of Dr. Torab, at a meeting in Germany in March 2004. Studies to measure endotoxin in both human and rat plasma and sera using the Limulus Amoebocyte Lysate Test (LAL) are also underway. This involves a quantitative spectrophotometric assay for endotoxin in human plasma, modified and standardized for murine plasma. Dr. Torab is collaborating with Prof. Ellis (Department of Medicine) and Dr. Ramadi (Department of Microbiology) in an analysis of the tolerability and efficacy of human recombinant interleukin II in the management of sepsis in leukemia patients undergoing consolidation chemotherapy.



Dr. Fikri has a major interest in research concerning trauma and has recently pre-

sented initial results following the establishment of the first Trauma Registry in the UAE. The project has received international attention when findings have been presented overseas. Dr. Fikri has now received two ultrasound machines donated by the Red Crescent to the Department of Surgery which are to be used for the detection of free intrabdominal fluid and this will help facilitate teaching and research activities in trauma.

Dr. Lunsjo and Prof. Younge are collaborating in prospective studies in patients who have sustained scapular or pelvic fractures. Prof. Younge is currently reporting his experiences with novel operative procedures he has devised for the management of musculoskeletal tumours. Prof. Safi has submitted a number of research proposals for consideration by various grantors to establish molecular oncology research in patients with colorectal cancer.

Several research projects and activities underway include endotoxin and cytokine measurement in chemical peritonitis with intraperitoneal injection of interleukin 6, similar studies in gram positive peritonitis with endotoxin and interleukin 6 injections, as well as measurement of endotoxin, interleukin 6 and tumour necrosis factor alpha in patients with critical limb ischaemia. Studies include the investigation of endotoxaemia and inflammatory conditions in patients with acute appendicitis, acute phase reaction in trauma victims and treatment of infection in the feet of diabetic patients.

Drs. Fikri, Fawaz and Lunsjo are Principal Investigators for research projects funded from different sources – the Research Grants Committee (Faculty of Medicine and Health Sciences) Individual and Interdisciplinary Research Proposals (United Arab Emirates University) and the Sheikh Hamdan Awards.

Departmental research interests are thus

diverse, currently encompassing general surgery and trauma. As the Department grows in stature with the appointment of surgeons with subspecialty interests, it is perceived that experimental research initiatives will expand in keeping with strategic themes which have been adopted in the Faculty.

ORIGINAL PEER-REVIEWED SCIENTIFIC ARTICLES

Abu-Zidan F, Rao S. (2003). Factors affecting the severity of horse related injuries. *Injury*, 34; 897-900.

Bashir MO, Abu-Zidan F. (2002). Damage control surgery for abdominal trauma. *Eur J Surg, Suppl* 588; 8-13

Czechowski J, Kalek W, Branicki FJ. (2003). The value of Computed Tomography and Ultrasound guided interventions in suspected thoraco-abdominal sepsis. *Emirates Medical Journal*, 21 (1);55-59

Echtibi S, Bashir MO, Ahmed MV, Branicki FJ, Abu Zidan FM. (2003). Superior mesenteric vein thrombosis complicating appendicular masses. *Saudi Med J*, 24; 447-449

Farrant G, Abu-Zidan F, Liu X, Delahunt B, Johnathan Zwi L, Windsor JA. (2003). The impact of intestinal ischaemia-reperfusion on caerulein induced oedematous experimental pancreatitis. *Eur Surg Res*, 35; 395-400.

Nunnink L, Abu-Zidan FM. (2003). Accidental carotid artery injury caused by a horse rope. *Br J Sports Med*, 37; 460-461.

Pant R, Ilyas I, Moreau PG, Younge DA. (2003). The supracondylar femoral nail in the tibia, *International Orthopedics*, 27(6); 352-354.

Pant R, Younge D, (2003). Turn-up bone flap for lengthening the below-knee amputation stump. *Journal of Bone and Joint Surgery*, 85(2); 171-173.

Safi F. (2003). The patients and safety in operative procedures; especially in cancer patients. *Emirates Medical Journal*, 21; 3227-229

Shaban S, Abu-Zidan F. (2003). A quantitative analysis of medical publications from Arab countries. *Saudi Med J*, 24; 294-296.

Winterbourn C; Bonham MJD, Buss H, Abu-Zidan F, Windsor JA. (2003). Elevated protein carbonyls as plasma markers of oxidative stress in acute pancreatitis. *Pancreatolgy*, 3; 375-382.

BOOKS, CHAPTERS, REVIEWS AND EDITORIALS

Bener A, Abu-Zidan FM, Bensiali A-K, Al-Mulla AA, Jadaan KS. (2003). Strategy to improve road safety in developing countries (Review). *Saudi Med J*, 24: 603-608.

Branicki FJ. (2003). Surgical Aspects of Peptic Ulcer Disease In: *Advanced Surgical Practice*, Eds: A Majeed, A Kingsnorth, Greenwich Medical Media Ltd, London, San Fransisco, 47 – 62

Torab FC, Branicki FJ. (2003). Dyspepsia: Empirical Therapy, Test and Treat for H. pylori or Endoscopy? *Emirates Medical Journal*, 21(2); 122-127

PUBLISHED ABSTRACTS, LETTERS, CORRESPONDENCE

Abu-Zidan F. (2003). Letter to the Editor. Alcohol and trauma (Commentary). *Journal of Trauma*, 54; 1255.

Abu-Zidan FM, Al-Mansouri W. (2003). Letter to the Editor. Laparoscopic appendectomy for appendicular mass. *Surgical Endoscopy*, 17; 1333.

Abu-Zidan FM. (2003). New concepts in the management of sepsis. *First Abu Dhabi Surgical Meeting*. Abu Dhabi 30 April-1 May.

Noura A, Fatma SR, Rowaya O, Noura AG, F C Torab, (2003). Resorption capacity by inflamed peritoneum of inflammatory mediators in the pathogenesis of systemic sepsis in an acute peritonitis model. *Emirates Medical Journal Volume 21 Number 3 (Suppl.) P 89*.

Torab FC, (2003). The Warren-Cattel anastomosis in soft pancreatic remnant after pancreatic resection for malignant disease. *Emirates Medical Journal Volume 21 Number 3 (Suppl.) P 65*.

PROCEEDINGS, CONFERENCES, INVITED LECTURES, WEB SITES AND OTHERS

Abu-Zidan F, Elzubeir MA. (2003). An interactive approach to teaching traumatology: Comparison between Auckland and Al Ain. (Oral presentation). *Annual Congress Royal Australasian College of Surgeons, Brisbane*.

- Abu-Zidan F, Rao S. (2003). Severity of bicycle-related injuries: A multivariate analysis. (Poster). Annual Congress Royal Australasian College of Surgeons, Brisbane.
- Abu-Zidan F, Elzubeir MA. (2003). Instructional skills contributing to outstanding surgical teaching (Poster). Annual Congress Royal Australasian College of Surgeons, Brisbane.
- Abu-Zidan FM, Johansen JG, Parmar KA, Rao S. (2003). Horse-related spinal injuries (Oral presentation). Annual Congress Royal Australasian College of Surgeons, Brisbane.
- Abu-Zidan F, Seösteen A-K, Wang J, al-Ayoubi F, Lennquist SM. (2003). A teaching animal model for sonographic diagnosis in Trauma. (Poster). Controversies in civilian and military trauma. Brisbane, Australia.
- Abu-Zidan F, Elzubeir MA. (2003). An interactive approach to teaching traumatology (Poster). Controversies in civilian and military trauma. Brisbane, Australia.
- Abu-Zidan FM, Al-Rukn S, Mansour T, Bener A. (2003). Behavior of bicyclists in Al-Ain city, UAE: An observational study (Poster). Contraversies in civilian and military trauma, Brisbane, Australia.
- Abu-Zidan FM. (2003). Management of ballistic injuries. Emirates International Disaster and Trauma Congress, Abu-Dhabi, UAE.
- Abu-Zidan FM, Al-Rukn S, Mansour T, Bener A. (2003). Behavior of bicyclists in Al-Ain city: An observational study (Oral presentation). The Fourth Annual Research Conference at The United Arab Emirates University. Al-Ain, UAE.
- Abu-Zidan FM, Olofsson P, Wang J, Wikstrom T, Lennquist S, (2003). Damage Controls Surgery in high energy traumatic shock (Oral presentation). The Fourth Annual Research Conference at The United Arab Emirates University. Al-Ain, UAE.
- Abu-Zidan F. (2003). New Concepts in the management of sepsis (Poster) 2nd Mediterranean Emergency Medicine Congress, Stiges/Barcelona.
- Abu-Zidan FM, Mansour T, Al-Rukn S, Bener A. (2003). Behavior of bicyclists in Al-Ain city, UAE: An observational study (Poster). 2nd Mediterranean Emergency Medicine Congress, Stiges/Barcelona.
- Abu-Zidan FM, Johansen JG, Parmar KA, Rao S. (2003). Mechanism of spinal horse-related injuries (Oral presentation). Annual Congress Royal Australasian College of Surgeons, Brisbane.
- Abu-Zidan F, Rao S. (2003). Severity of bicycle-related injuries: A multivariate analysis (Poster). 2nd Mediterranean Emergency Medicine Congress, Stiges/Barcelona.
- Abu-Zidan F, Seösteen A-K, Wang J, al-Ayoubi F, Lennquist SM. (2003). Establishment of a teaching animal model for sonographic diagnosis of trauma (Poster). 2nd Mediterranean Emergency Medicine Congress, Stiges/Barcelona.
- Abu-Zidan F, Elzubeir MA. (2003). An interactive approach to teaching traumatology (Oral presentation). 2nd Mediterranean Emergency Medicine Congress, Stiges/Barcelona.
- Abu-Zidan F, Shabaan S, Ashour MS, Bashir MO. (2003). Establishment of a Trauma Registry at Al-Ain city (Poster). 2nd Mediterranean Emergency Medicine Congress, Stiges/Barcelona.
- Abu-Zidan F, Elzubeir MA. (2003). Instructional skills contributing to outstanding teaching (Poster). 2nd Mediterranean Emergency Medicine Congress, Stiges/ Barcelona, Spain.
- Abu-Zidan F. (2003). Ultrasound and Trauma (Invited lecture). Emergency Ultrasonography Course. 2nd Mediterranean Emergency Medicine Congress, Stiges/ Barcelona, Spain.
- Abu-Zidan F, Seösteen A-K, Wang J, al-Ayoubi F, Lennquist SM.. (2003). Establishment of a teaching animal model for sonographic diagnosis of Trauma (Poster). 11th UAE Surgical Conference. Abu-Dhabi.
- Abu-Zidan F, Elzubeir MA. (2003). Instructional skills contributing to outstanding teaching (Oral presentation). 11th UAE Surgical Conference. Abu-Dhabi.
- Abu-Zidan FM, Johansen JG, Parmar KA, Rao S. (2003). Mechanism of spinal horse-related injuries (Oral presentation). Annual Congress Royal Australasian College of Surgeons, Brisbane.
- Abu-Zidan FM. (2003). Critical decision making in trauma patients (Invited lecture). 11th UAE Surgical Conference. Abu-Dhabi.
- Abu-Zidan FM. (2003). Ethics of Medical writing. Medical writing workshop 5th October 2003, Abu-Dhabi.

- Abu-Zidan FM. (2003). Statistics: When and how? Medical writing workshop 5th October 2003, Abu-Dhabi.
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- Bashir MO, Abu-Zidan FM. (2003). Damage control surgery, Trauma CME Symposium. Al-Ain.
- Bashir MO, Abu-Zidan FM. (2003). Motor vehicle collisions with large animals (Oral presentation). 2nd Mediterranean Emergency Medicine Congress, Stiges/Barcelona.
- Bashir MO, Abu-Zidan FM. (2003). Motor vehicle collision with animals in UAE. Emirates International Disaster and Trauma Congress, Abu-Dhabi.
- Bashir MO, Abu-Zidan FM. (2003). Damage control surgery for abdominal trauma. 11th UAE Surgical Conference. Abu-Dhabi.
- Bener A, Abu-Zidan FM, Bensiali A-K, Al-Mulla AA, Jadaan KS. (2003). Some strategies to improve road safety in developing countries. 19th World Congress of International Traffic Medicine Association, Budapest, Hungary.
- Branicki FJ. (2003). Gastric Cancer – from Minimal Access to Multimodality Therapy. 5th International Surgical Update. Joint Meeting Royal Hospital Oman and Royal College of Surgeons of Edinburgh, Muscat, Oman.
- Branicki FJ. (2003). Oesophago-Gastric Cancer: Quality of Life Issues. 5th International Surgical Update. Joint Meeting Royal Hospital Oman and Royal College of Surgeons of Edinburgh, Muscat, Oman.
- Iftikhar A, Ramadan K, Czechoski J, Abu-Zidan FM. (2003). Mesenteric vascular occlusion. 11th UAE Surgical Conference. Abu-Dhabi.
- Lunsjo K. (2003). Extra capsular hip fractures, the Medoff sliding plate vs. dynamic hip screw. 4th Tawam Orthopaedic Congress, Al Ain, United Arab Emirates.
- Mansour T, Al-Rukn S, Bener A, Abu-Zidan FM. (2003). Behavior of bicyclists in Al-Ain City, UAE: An observational study, (Oral presentation). 11th UAE Surgical Conference. Abu-Dhabi.
- Michael S, Abu-Zidan F, Branicki F. (2003). CRP: a good prognostic indicator of resolution in patients with severe sepsis. 11th UAE Surgical Conference. Abu-Dhabi.
- Muhammed OQ, Bashir MO, Abu-Zidan FM. (2003). Bicycle-related injuries. (Oral presentation). 11th UAE Surgical Conference. Abu-Dhabi.
- Navarro N, Campos M, Alvarado R, Quintero N, Branicki FJ, Wei J, Vrijens F, Giezek H, Shivaprakash M, Chan C for the OASIS –2 Study Team, (2003). Ertapenem versus Ceftriaxone/metronidazole for the Treatment of Intra-abdominal Infections (IAI) requiring Surgical Intervention (OASIS-2): Results of a Postoperative, Randomized Open Label Study. 3rd International Meeting on Antimicrobial Chemotherapy in Clinical Practice, (ACCP) San Margherita, Portofino, Italy. Portofino (Poster).
- Olofsson P, Abu-Zidan FM, Wang J, Wikstrom T, Lennquist S. (2003). Damage Control Surgery improves cardiovascular and respiratory function in high energy traumatic shock (Poster) Controversies in civilian and military trauma. Brisbane.
- Olofsson P, Abu-Zidan FM, Wang J, Wikstrom T, Lennquist S. (2003). Damage Control Surgery improves cardiovascular and respiratory function in high energy traumatic shock (Oral Presentation) Annual Congress Royal Australasian College of Surgeons, Brisbane, Australia.
- Olofsson P, Abu-Zidan FM, Wang J, Wikstrom T, Lennquist S. (2003). Damage Control Surgery improves cardiovascular and respiratory function in high energy traumatic shock (Oral presentation). 2nd Mediterranean Emergency Medicine Congress, Stiges/Barcelona.
- Olofsson P, Abu-Zidan FM, Wang J, Wikstrom T, Lennquist S. (2003). Damage Control Surgery improves cardiovascular and respiratory function in high energy traumatic shock (Oral presentation). 11th UAE Surgical Conference. Abu-Dhabi.
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- Radwan M, Ramadan K, Abu Azab I, Abu-Zidan F. (2003). Botulinum toxin for the treatment of anal fissure. 11th UAE Surgical Conference. Abu-Dhabi.
- Safi F. (2003). Regional chemotherapy for liver metastasis of colorectal cancer (invited Lecture) Dubai Rashid Hospital.

Safi F. (2003). Regional Intra-arterial (IA) versus simultaneous intra-arterial and systemic (IA/IV) FUDR Therapy in hepatic metastasis of colorectal carcinoma: End result of the study. The Fourth Annual UAE University Research Conference.

Safi F. (2003). Pattern of recurrences of colorectal cancer: Surgery for recurrences is it worthwhile? The Fourth Annual UAE University Research Conference Al-Ain.

Safi F. (2003). Surgery for Colorectal Cancer. 11th UAE Surgical Conference, Abu Dhabi

Torab FC. (2003). Adaptation of a human quantitative spectrometric endotoxin assay to measure endotoxin in plasma from the rat, The 4th Annual United Arab Emirates University Research Conference, Al-Ain, UAE.

Torab FC. (2003). Factors predicting prognosis in acute pancreatitis. First Abu Dhabi Surgical Meeting, Abu Dhabi, UAE.

Torab FC. (2003). Surgical Treatment of Morbid Obesity. 11th UAE Surgical Conference, Abu Dhabi, UAE.

Torab FC. (2003). The Warren-Cattel anastomosis in soft pancreatic remnant after pancreatic resection for malignant disease. 11th UAE Surgical Conference, Abu Dhabi, UAE.

RESEARCH GRANTS 2003

FMHS New Grants awarded in 2003

Dr. FM Abu Zidan

NP/03/12 Establishment of Trauma Registry in Al Ain Hospital

UAE University Grants – 2003

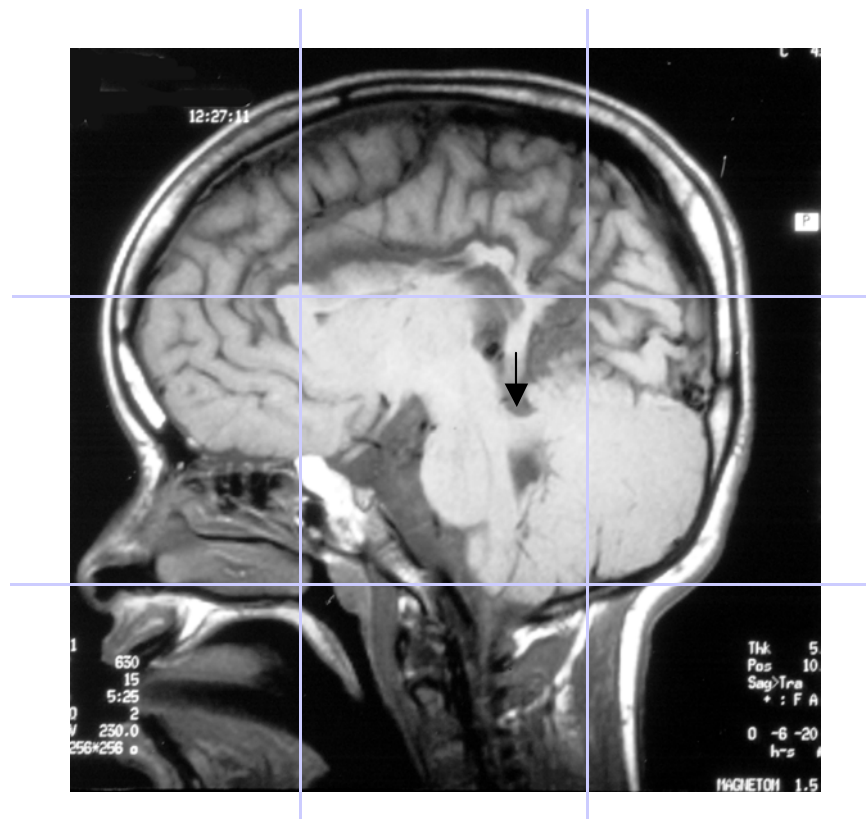
Dr. FM Abu Zidan

01-07-8-11/03 Establishment of Trauma Registry in Al Ain Hospital

Dr. FC Torab

Development of novel peptide-based antimicrobial agents for use in the treatment of diabetic foot ulcers

Research Priority Groups



Diabetes and Cardiovascular Research Priority Group. Report 2003_____

Core Members:

Prof. Enyoma Obineche
Prof. Richard Reed
Dr. Chris Howarth
Dr. Hussain Saadi

Prof. Abdu Adem
Prof. Ernest Adeghate
(Group Representative)

Introduction

The Diabetes and Cardiovascular Research Priority Group (DCRG) was established on January 27, 2002, after an initial meeting called by the Dean in the autumn of 2001. The DCRG works closely with the Al Ain Diabetes Research Group.

In addition to the core members there are more than 45 other faculty members from within the FMHS.

Aims of the Group

- Foster diabetes and cardiovascular research in the faculty.
- Enhance the clinical and basic research capabilities of established diabetes investigators.
- Act as channel for research funding.
- Act as a resource for new faculty members and for those who may want to start research in diabetes/cardiovascular diseases.
- Publish reports in relevant forums to advance the quality of research in diabetes/cardiovascular diseases.
- Cooperate and liaise with any local, national or international agency with similar goals.
- Train post-doctoral, doctoral, masters and bachelors degree students.
- Act as a resource unit on diabetes and cardiovascular diseases.

Activities

Scientific Workshop

The group organised the 10th Annual Workshop on Diabetes and its Complications in collaboration with the Al Ain Diabetes Research Group and the Emirates Medical Association (Emirates Diabetes Society) on March 27, 2003. The workshop attracted more than 375 participants from all over the UAE. There were speakers from other Emirates and Lebanon. The Workshop was sponsored in part by Pfizer, MSD, Merck Scientific and Modern Pharmacy.

4th International Symposium on Diabetes Mellitus & its Complications, Preston, UK, July 6-8, 2003

This three day international symposium was organised by the group in collaboration with the University of Central Lancashire. About 110 participants, mainly from the UAE, Canada, Greece, Australia, UK, Spain, Poland and Portugal took part in this meeting. Selected papers presented at the meeting were published as a special issue of Molecular and Cellular Biochemistry. Ernest Adeghate is a Co-Editor of this special issue. More than twelve full-length papers were contributed by members of the group. This special issue on diabetes will be published in 2004.

World Diabetes Day

Series of lectures marking the World Diabetes Day was organised by the group in association with the Al Ain Diabetes Research Group on October 22, 2003. This event was sponsored by MSD (Middle East) and was attended by more than 100 health care providers and researchers in the field of diabetes.

Themes of research include the following

- Neuropeptides and neurotransmitters in diabetes
- Trace elements in diabetes
- Immunology of diabetes
- Clinical pharmacology of diabetes
- Insulin and glucagon secretion
- Excitation-contraction coupling in cardiac myocytes
- Epidemiology of diabetes
- Diabetic complications (nephropathy, neuropathy, angiopathy etc)
- Lipids in human and experimental diabetes
- Metabolic syndrome and obesity
- Pancreas transplantation
- Hypertension
- Gestational diabetes

Grants obtained by members

1. Mechanisms underlying the progressive long-term effects of type 2 diabetes on heart muscle function (UAEU Interdisciplinary Grant).
2. Effects of single high-dose (SHD) and multiple low-dose streptozotocin (STZ) on contraction and Ca^{2+} transport in ventricular myocytes from MLD-STZ diabetes resistant and susceptible rats (FMHS).
3. The progressive effects of diet-induced diabetes on the structure and function of cardiac muscle in a genetic mouse model of type 2 diabetes (UAEU Individual Grant).
4. Calcitonin-gene-related-peptide: Cellular distribution and effect in the endocrine pancreas of diabetic Zucker rats

(FMHS).

5. A Controlled Trial of an Educational Intervention to Improve Care of Diabetes Mellitus in Primary Health Care Centres (FMHS).
6. Diabetic Autonomic Neuropathy (FMHS)
7. Trace Elements in Diabetes (UAEU Interdisciplinary Grant)

Collaboration with local and international institutions

Local

- Neuroscience Research Group, FMHS, UAEU
- Al Ain Diabetes Research Group
- Emirates Diabetes Society (Emirates Medical Association)
- Tawam and Jimi Hospitals, Al Ain, UAE
- Faculty of Science, UAEU
- Faculty of Engineering, UAEU

International

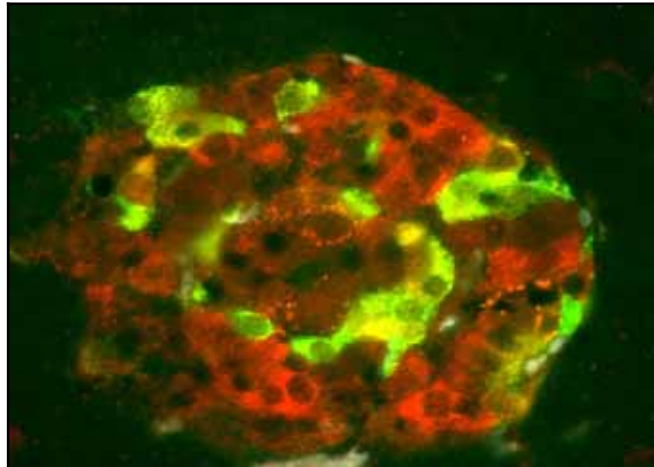
- James Cook University, Queensland, Australia
- University of Leeds, UK
- University of Central Lancashire, UK
- Karolinska Institut, Sweden
- Semmelweis University, Hungary
- CNRS, France

Future plans

1. Database of members and their research interests
Plan is underway to create a database of members and their research interests.
2. Establishment of a Diabetes research Center
The group is planning to establish a Diabetes Research Centre. The centre will provide a facility that enables and facilitates a multidisciplinary approach to the study of diabetes and its complications and to provide the infrastructure for diabetes related undergraduate and post-graduate research and teaching activities.

Publications

See Departments of Anatomy, Pharmacology, Physiology, Family Medicine, Internal Medicine and Medical Microbiology for relevant publications.



Localization of calcitonin-gene-related peptide (CGRP) immunoreactive cells (red) and somatostatin (SOMA)-positive cells (green) in the pancreatic islet of diabetic rat. Some cells (orange-yellow) contain both CGRP and SOMA.X400.

Genetics and Development Research Priority Group. Report 2003

A. Mission of the Group

UAE is a young modern society, with traditional customs and beliefs, in which consanguineous marriages are leading to high autosomal recessive disorders frequency. The mission of the group is to provide the highest quality patient care, research into genetic diseases and education both of the professionals and the public. In support of the mission the group strives to define the extent of genetic and developmental disorders in the country, to be the leading source of research into the causes and the pathogenesis of these disorders using state-of-the-art technology and to seek new approaches to prevention, treatment and diagnosis of genetic disorders. The mission is also to educate the next generation of leaders by providing continuing professional development to physicians with up to date courses, and to educate the public by providing information on different genetic disorders and ways of prevention.

B. Research Focus

The area of Birth Defects has been a major focus of research interest for the Genetics Priority Group. This group is involved in research into different aspects of congenital abnormalities, examples include:

- ♦ Epidemiological studies to establish the prevalence and pattern of different anomalies common in this population.
- ♦ Clinical, cytogenetic and molecular delineation of syndromes or disorders common in this population.
- ♦ Laboratory investigations into the mechanisms of birth defects.
- ♦ Teratology of anti-epileptic drugs.

- ♦ Proteomic in development.

Other areas of research interest include

- ♦ Genetics of neurological and neurobehavioral disorders including molecular genetics of nervous system dysgenesis; genetic disorders affecting the cerebral white matter, inborn errors of metabolism; molecular genetics of the epilepsies, Hippocampus in various cerebral disorders and genetic basis of mental retardation.
- ♦ Mapping recessive genetic disorders using the concept of homozygosity mapping.
- ♦ Identification of mutations of single gene disorders common in this population.

C. Activities in year 2003

- ♦ Bimonthly research seminars:

Date	Speaker	Title
January 2003	Professor Padmanabhan	Holoprosencephaly in the offspring of diabetic mice
March 2003	Dr. L. Sztriha	Genetic disorders of the motor unit in infancy
May 2003	Dr. S. Denic	Cancer Genes and Consanguinity

- ♦ Group members participated in several international meetings.
- ♦ Group members chaired sessions in international meetings.

International Meeting

International Genetic Congress took place in Dubai 9-11 December 2003. The congress had a strong scientific theme with truly international participation from centers of excellence. Selected papers presented in the congress will be published in a special issue of the international journal Community Genetics entitled "Community Genetics in the Arabian Gulf Region."

Collaboration with relevant UAE and international groups and organizations

♦ UAE

1. Several collaboration between group members and with other priority groups.
2. Ministry of Health
3. School Health authorities
4. Hamdan Award for Medical Sciences
5. Center for Arab Genomic Study

♦ Regional

Sultan Qaboos University, Muscat, Oman

1. Homozygosity mapping of autosomal recessive disorders in consanguineous families in UAE and Oman population .
2. Genetic basis of inherited primary nocturnal enuresis

♦ International

1. International Clearing House for Birth Defect Monitoring System [member]
2. Human Genome Organization (HUGO) [Affiliated]
3. Harvard University
4. University of California, San Diego

Several collaborative research projects with international groups are underway:

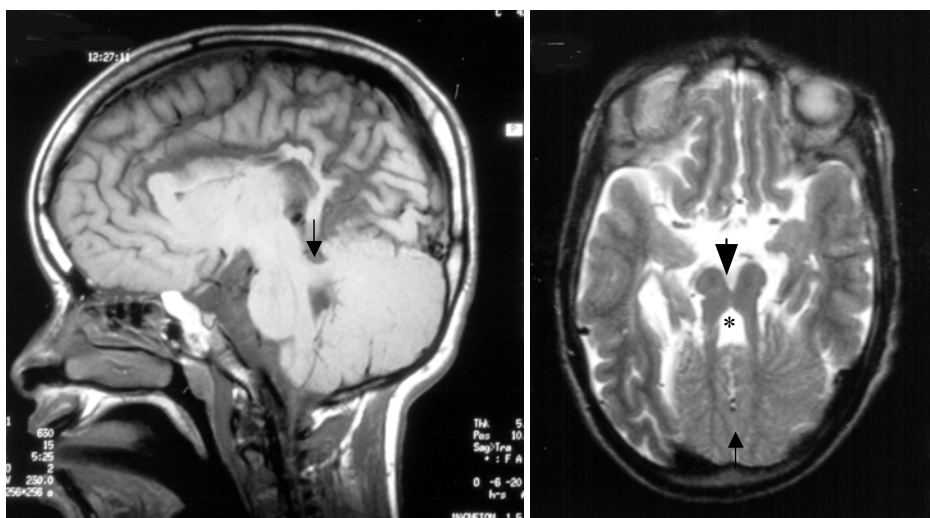
- ♦ Molecular study of Desbuquois syndrome
Molecular study of Stuve-Wiedemann syndrome. INSERM; France.
- ♦ A clinical and molecular genetic analysis of skeletal dysplasia Dygve-Melchoir Clausen, Department of Genetics, University of Leicester, UK

- ♦ A clinical and molecular study of Cohen syndrome. Genetic study of Geroderma osteodysplastica. Department of Genetics, Manchester University, UK
- ♦ Family and phenomenological study on Tourette syndrome and obsessive compulsive disorders, Yale Child Center, Yale University , USA and University College London Medical School, London, UK
- ♦ Biological and molecular genetic aspects of schizophrenia and affective disorders, Human Genetic Institute, University of Bonn, Germany
- ♦ Phenotype and etiology of Pallister-Hall syndrome and related disorders
National Human Genome Research Institute, National Institute of Health, Bethesda, MD 20892, USA
- ♦ Mutation analysis of LICAM gene
Department of Clinical Genetics, Groningen University Hospital, The Netherlands
- ♦ L-2-hydroxyglutaric aciduria.
Department of Clinical Chemistry Academic Medical Center, University of Amsterdam, The Netherlands
- ♦ Molecular genetic study of Joubert Syndrome, University of California, San Diego, CA, USA
- ♦ Autozygosity mapping of AR syndromes in complexly consanguineous families, Leeds University, Leeds

E. Grants

- ♦ Subtelomeric Chromosome rearrangement in children with unexplained mental retardation in the population of UAE Sheikh Hamdan Award for Medical Research
- ♦ Relationship between Epilepsy and Hippocampal Abnormalities in Children [FMHS]
- ♦ Vascular disruption sequence in exencephaly and limb reduction malformations in a rat model. (Faculty of Medicine and Health Sciences, UAE University Grant)

- ♦ Diabetes and Pregnancy: Pathogenetic mechanisms of pregnancy failure, preimplantation loss and embryo resorption in streptozotocin-induced diabetes in the mouse (UAE University, Individual Grant).
- ♦ Development of Feline immunodeficiency virus (FIV)-based self-inactivating vectors and packaging cells lines for potential use in human therapy. Sheikh Hamdan Award for Medical Research
- ♦ Pathogenic mechanisms of craniofacial malformations: Electron, microscopic and immunohistochemical studies on maternal hyperthermia-induced craniofacial abnormalities in rat embryos. FMHS
- ♦ Diabetes-alcohol interaction: The effect of maternal alcohol treatment on fetal development in streptozotocin-induced diabetes in the mouse. FMHS
- ♦ Karyotype abnormalities among mal-
- formed fetuses detected by ultrasound in multiethnic UAE population. FMHS
- ♦ Studies of mitochondrial DNA sequences of autistic children from different geographic regions. FMHS
- ♦ Studies on the teratogenic mechanisms of vigabatrin Sheikh Hamdan Award for Medical Research
- ♦ Familial and psychosocial aspects of paediatric cancer: Influence on compliance, coping and recovery Terry Fox foundations
- ♦ Epidemiological study of developmental and behavioral disorders in 3 year old children. Sheikh Hamdan Award for Medical Research
- ♦ Amino Acid depletion in β thalassemia Departmental Fund
- ♦ Ochronosis and alcaptonuria FMHS



Brain MRI of a patient with Joubert syndrome plus oculo-renal involvement. This patient shows linkage to a novel locus on chromosome 11p12-q13.3 [CORS2]. MRI features of Joubert syndrome can be seen on the figures. Parasagittal T1-weighted image (left) shows the maloriented superior cerebellar peduncle (arrow). Axial T2-weighted image (right) demonstrates the molar tooth sign: deep interpeduncular fossa (arrowhead), absence of the cerebellar vermis (arrow) and enlarged 4th ventricle (asterisk). *Am. J. Hum. Genet.* 73:656-662, 2003

Immunoregulation and Infection Research Group. Report 2003

Group Leader:	Prof. Norbert Nowotny
Core Members:	Prof. Miodrag L. Lukic
	Prof. Senarath Dissanayake
	Dr. Basel Al-Ramadi
	Dr. Tahir A. Rizvi
	Dr. Tibor Pal
	Dr. Pauline Jumaa
	Dr. Mariam Al-Shamsi
	Prof. Michael Ellis
	Prof. J. Mike Conlon
	Prof. Sayenna A. Uduman
	Dr. Maria J. Fernandez-Cabezudo
	Dr. Jose Joseph
	Dr. Fawaz Chikh Torab

In 2003, two new core members joined the group, Dr. Pauline Jumaa, Assistant Professor in the Department of Medical Microbiology, and Dr. Mariam Bakhit Salem Al-Shamsi, Assistant Professor in the Department of Medical Microbiology.

Statement of the main research focuses of the Group and their Members

The Research Priority Group “**Immunoregulation and Infection**” is focusing on all aspects of Infection and Immunity by promoting the research activities of its members and encouraging research co-operations within the Faculty as well as with Institutions outside the Faculty. Seminars on various topics related to Infection and Immunity are organized both by the Research Priority Group itself and jointly with Prof. Ellis’ Infectious Disease Group.

Research Interests of the Members include

- Regulation of innate and adaptive immune responses in intracellular microbial infections (al-Ramadi)
- Mechanisms of T lymphocyte activation and function (al-Ramadi)
- Inflammatory cytokines/chemokines in human infections (al-Ramadi)
- Immunity to autoimmune diseases (type I diabetes, rheumatoid arthritis and MS):
 - a) Factors involved in development and progression
 - b) Possible ways of prevention (al-Shamsi)
- Study of possible relations connecting microorganisms to autoimmune diseases (al-Shamsi)
- Purification, characterization and structure-activity relationships of antimicrobial and antiviral peptides from natural sources, particularly from the skins of am-

- phibians (Conlon)
- Novel therapies for infected foot ulcers in diabetic patients (Conlon)
- Immunomodulation by parasite carbohydrates with emphasis on mechanisms of Th1/Th2 shifts in parasitic diseases (Dissanayake)
- A broad interest in clinical infectious diseases, particularly respiratory infections (Ellis)
- Infections in the immunocompromised patient (Ellis)
- Invasive mycoses especially in individuals with haematological malignancy (Ellis)
- Clinical trials of antifungal therapy (Ellis)
- Role of Protein Tyrosine Kinases (PTK) in T cell oncogenesis (Fernandez-Cabezudo)
- Immunohistological changes in lymphoid organs following microbial infections (Fernandez-Cabezudo)
- Systemic-inflammatory mediators in asthma; focus on the role of serum IL-5 and IL-13 in asthmatics (Joseph)
- Transforming growth factor β 1 and its role in non-atopic asthma (Joseph)
- Transforming growth factor β may suppress IgE elaboration from B lymphocytes (Joseph)
- Intracellular cytokines in asthmatics and normal controls following treatment with corticosteroids and leukotriene receptor antagonists (Joseph)
- Epidemiology, clinical and microbiological characteristics of nosocomial bacteraemia (Jumaa)
- Surveillance of antimicrobial resistance (Jumaa)
- Control of infection in the hospital (Jumaa)
- Immunoregulatory mechanisms in hepatitis C infection (Lukic)
- Target tissue regulation of inflammatory autoimmunity in the CNS (Lukic)
- Cytokine interplay in the development of type I diabetes (Lukic)
- All aspects of infectious diseases, especially viral diseases (Nowotny)
- Zoonoses (Nowotny)
- Emerging viral infections (Nowotny)
- Molecular epidemiology / phylogeny (Nowotny)
- Molecular detection and characterization of enteric pathogens in the UAE (Pal)
- Investigation of the role of curli fimbriae on diarrheagenic *Escherichia coli* (Pal)
- Molecular characterization of antibiotic resistant Gram negative bacteria in the UAE (Pal)
- Retroviral replication (RNA packaging, export, and promoter functions) and pathogenesis (Rizvi)
- Retroviral vectors for gene therapy and DNA-based vaccines (Rizvi)
- The pathophysiology of acute pancreatitis and sepsis (Torab)
- The kinetics and translocation of endotoxin and related inflammatory mediators in the course of sepsis situation such as peritonitis and pancreatitis (Torab)
- Methods of measurement of endotoxin and its effect in vitro and vivo (Torab)
- The pathophysiology and role of the inflammatory mediators in acute phase reactions such as trauma (Torab)
- Maternofetal and neonatal infections relevant to infants of toxoplasmosis, cytomegalovirus and hepatitis C virus infected mothers; immunological and longitudinal clinical assessment (Uduman)
- Post immunization clinical and immunogenicity study of *Haemophilus influenzae* type b disease in UAE (Uduman)
- Immunoprophylaxis efficacy trial of palivizumab in respiratory syncytial virus infected high risk infants (Uduman)
- Clinical, diagnostic and therapeutic aspects of infectious diseases of the newborn and pediatric population (Uduman).

Major research achievements

The members of the group published in 2003 thirty-nine original research papers in prestigious peer-reviewed international Journals such as

- Annals of Allergy, Asthma & Immunology
- Antimicrobial Agents and Chemotherapy
- Applied and Environmental Microbiology
- Biochemical Biophysical Research Communications (2)

- BMC Pulmonary Medicine
- Cellular and Molecular Life Sciences
- Diagnostic Microbiology and Infectious Disease
- Emirates Medical Journal (4)
- Epidemiology and Infection
- European Journal of Clinical Microbiology & Infectious Diseases
- Free Radical Research
- Frontiers in Autoimmunity, NATO Science Series
- Journal of Applied Toxicology
- Journal of Autoimmunity
- Journal of General Virology
- Journal of Medical Microbiology
- Journal of Peptide Research
- Journal of the American Academy of Dermatology
- Journal of Tropical Pediatrics
- Journal of Zoo and Wildlife Medicine
- Lancet
- Medical Mycology
- Microbes and Infection
- Molecular Immunology
- Pediatric Hematology and Oncology
- Peptides (2)
- Toxicology
- Veterinary Record
- Veterinary Research
- Virology
- Virus Research
- Wiener Klinische Wochenschrift

Also, several members of the group have been invited speakers at international conferences, they are members of the editorial board of prestigious Journals, and members of international committees. The group members collaborate with a number of groups, institutions and organizations within the UAE and abroad.

Research Grants

The members of the group were in 2003 principal investigators of grants of the following granting bodies:

- FMHS (9)
- UAEU Interdisciplinary Grant (4)

- Sheikh Hamdan Bin Rashid Al Maktoum Award for Medical Sciences (1)
- Terry Fox Fund for Cancer Research (3)

And in addition co-investigators of many other grants.

The full citations of the publications and details of the grants are listed in the Departmental Reports.

Meetings

In 2003, the Research Priority Group "Immunoregulation and Infection" held Meetings on February 3, May 27, and November 11.

Seminars were offered on 5 occasions, 3 of them jointly with Prof. Ellis' Infectious Disease Group:

- February 3, 2003:
Dr. Said H. S. Al Dhahry, Associate Professor at the Department of Microbiology and Immunology, College of Medicine and Health Sciences, Sultan Qaboos University, Muscat, gave a seminar in our Faculty on "HIV type I infection in Oman: Genetic diversity, drug resistance and treatment outcomes"
- February 20, 2003:
6th Meeting on Infectious Diseases at the Beach Rotana Hotel & Towers, Abu Dhabi, sponsored by Pfizer. Five presentations were given during this Meeting, among them from our group Professor Senarath Dissanayake on the topic: "Leprosy - the cousin of tb"
- June 5, 2003:
7th Meeting on Infectious Diseases at the JW Marriott Hotel Dubai, sponsored by Pfizer. Six topics were presented, among them from our group Professor J. Michael Conlon on "Antimicrobial peptides from frog skin: therapeutic agents"
- October 9, 2003:

8th Infectious Disease Meeting held at the Jebel Hafeet Hotel, Al Ain, and sponsored by Pfizer. Six presentations were given, among them from our group Professor Sayenna A. Uduman on the topic "Concerns and control of a seasonal virus in pediatrics", Dr. Pauline Jumaa on "Cryptosporidium - should we look for it routinely?", and Professor Michael Ellis on "Prevention of infection in neutropenic patients - a novel approach".

- December 13, 2003:

Dr. Joshy Jacobs, Assistant Professor at Emory University, Atlanta, gave a seminar at FMHS on "Following the footsteps on immune sentinels".

- In addition, several members of the group (al-Ramadi, Dissanayake, Ellis, Joseph, Lukic, Nowotny, Pal, Uduman) gave presentations at the "Update in Infectious Diseases Conference", April 10, 2003, at FMHS, and

- At the 4th Annual UAE University Research Conference, April 27-29, 2003, Intercontinental Hotel, Al Ain.

For the future it is planned to increase the number of scientific meetings with invited speakers, and to form special interest groups, which are aimed to encourage research co-operations between the individual members.

A major event organized by the group will be the **International Conference on "Emerging Infectious Diseases"** to be held from **February 26 to March 01, 2005** in Al Ain. Several highly distinguished speakers have already accepted our invitation. The preparations for the Conference are on the way, and we are very much looking forward to this Conference.

Prof. Norbert Nowotny
for the Research Priority Group
Immunoregulation and Infection

Medical Education Research Group. Report 2003



Chair: Dr Stephen Margolis
Co-chair: Professor Kate Hammond
Committee Member: Professor Laurence Garey

The Medical Education Research Group [MERGE] held its inaugural meeting on March 25, 2002.

Mission Statement

To act as a platform for those interested in medical education research, highlight the significance of education research and thereby improve the quality, dissemination and effectiveness of medical research nationally and regionally.

- To develop a continuum of forward looking and comprehensive research activities based upon faculty, national and regional needs.
- To communicate case studies and research results to decision makers, professionals, teachers and students, ensuring feedback occurs between these groups.
- To act as a resource for those involved in medical education planning, provision and evaluation.
- To involve the students in the activities of MERGE wherever appropriate.

Primary Aims

- To encourage and facilitate research into medical education.
- To establish mechanisms which facilitate and develop faculty, university and regional awareness and knowledge of practitioners' current and future research and development activities in the field.
- To act as a conduit for research funding.
- To act as a mechanism for cross-fertilization of ideas between various interested parties in the field of educational research.
- To promote faculty excellence in the field of medical education research and evaluation.
- To develop dialogue, establish priorities and evaluate different frameworks for educational research.

Major Achievement

Following the development of a collaborative dialogue between MERGE and Zayed University, the Education Research Group [ERG] has been established. This group formalises the strong relationship between education researchers at both institutions and increases the scope for productive research across the UAE. The committee members of ERG include from ZU Professor John Connolly, Deputy Vice President of Research and Dr Peter McNally and Dr Ken Carr, School of Education and the committee members of MERGE.

The first project to begin under the cross-campus research agenda is titled 'Career destinations for medical graduates of the

Faculty of Medicine and Health Sciences, UAE University and education graduates of the College of Education, Zayed University.'

Conferences

MERGE will play a significant role in the 4th GCC conference on Medical Education, to be held in Al Ain, Nov 29, 30 and Dec 1, 2004.

Meetings

Regular open meetings were held throughout the year, with speakers from both the FMHS and Zayed University. Topics included evidence-based care: teaching critical appraisal skills to medical residents in the online environment, experiences in teacher education, interactive problem based learning, research misconduct, academic integrity and an innovative approach for teaching clinical pharmacology.

Publications

- Revel T, Yussuf H. Taking primary care continuing professional education to rural areas: lessons from the United Arab Emirates. *Aust J Rural Health*. 2003;11: 271-6.
- Margolis SA, Nilsson KA, Reed RL. Performance in Reading Radiographs: Does Level of Education Predict Skill? *Journal of Continuing Education in the Health Professions* 2003; 23: 48-53

Conference Abstract

- Barss P. Injury Epidemiology, Prevention, & Treatment: An Integrated Curriculum. European Medical Education Conference, Berne, 2003.

Work in progress:

- Margolis S, Reed R. Effect of religious practices of Ramadan on sleep and perceived sleepiness of medical students. *Teach Learn Med*. [in press]

- Ypinazar VA, Margolis SA, Hammond KD. The relationship between learning styles and the ability of preclinical medical students to predict their test results. [submitted]
- Ypinazar VA, Griffin G, Margolis SA. The impact of curriculum change on the attitudes of students and their teachers in an undergraduate medical course. [submitted]
- Ypinazar VA, Margolis SA. Early clinical experience in medical ethics. [submitted]
- Weerasinghe DSL, Mirghani H, Fikri A. Group and individual learning curves for foetal ultrasound biometry measurements cumulative sum analysis.
- Hammond KD, Elzubeir M. Medical education in complementary and alternative medicine.
- Margolis SA, Hammond KD, Garey L, Abdul Razak Y, Connolly J, McNally P, Carr K. Career destinations for medical graduates of the Faculty Of Medicine And Health Sciences, UAE University and education graduates of the College of Education, Zayed University.

Neuroscience Group. Report for 2003_____

Mission

The mission of the Group shall be to:

- Support and promote neuroscience in Al Ain and the UAE
- Give encouragement and assistance to, and strengthen ties between, its members
- Organize seminars, congresses and workshops in the field of neuroscience
- Collaborate with and participate in scientific activities of other groups in the field of neuroscience nationally and internationally.

Major Achievements

The group initiated a number of collaborative efforts to pursue research in the field of neuroscience within the UAE and a number of prestigious institutions abroad including:

- USA (Iowa Medical School, Harvard University, M.I.N.D Institute)
- UK (Imperial College, University College, University of Glasgow)
- Australia (James Cook University)
- Canada (Mc Master University)
- Netherlands (University of Amsterdam, University of Groningen, Utrecht Medical Centre)
- Italy (Universita La Sapienza, University of Turin)
- Germany (University of Bonn)
- Sweden (University of Gevle; The Karolinska Institute, Uppsala University)
- Denmark (University of Aalborg)
- Austria (Institute of Virology, Vienna)
- Yugoslavia (Institutes for Medical Research and Neurology, Belgrade)
- Belgium (Janssen Research Foundation)
- Ukraine (National Academy of Sciences, Kiev)

- Russia (Academy of Sciences, St Petersburg)
- Singapore (National University of Singapore)
- Oman (Sultan Qaboos University, Muscat)

A number of publications have resulted from the research efforts of its members, and some have major implications for future research. For example, Dr. Ljubisavljevic and colleagues established that exogenously applied NPY almost fully restores dynamic properties (force and fatigability) of the ischemic muscle to the levels observed in the non-ischemic conditions. This establishes the therapeutic potential of exogenous NPY in ischemic conditions.

Scientific Meetings and Seminars organised by the group

Monthly Seminars

1. Depression by Prof. Philip Graham, Emeritus Professor and Former Dean, Institute of Child Health, London, UK on Tuesday 21st January 2003.
2. Virtual Reality In Neurosurgical Planning, Education & Skills Development by Dr. Javaid Iqbal, Head of Department & Consultant Neurosurgeon, Al Baraha Hospital, MOH, Dubai on Monday 24th February 2003.
3. Genetic Diseases Of The Muscles In Childhood by Dr. Lazlo Sztriha, Paediatric Neurologist, Department of Paediatrics, FMHS, UAE University, Al Ain on Tuesday 25th March 2003.
4. Prehospital Management Of Status Epilepticus In A Child With Wolf-Hirschhorn-

Syndrome by Prof. George Petroianu, Department of Pharmacology, FMHS, UAE University, Al Ain on Monday 28th April 2003.

5. Neurotransplantation In Epilepsy by Dr. Istvan Ferencz, Consultant Neurologist, Tawam Hospital, Al Ain on Monday 19th May 2003.

Scientific Meetings

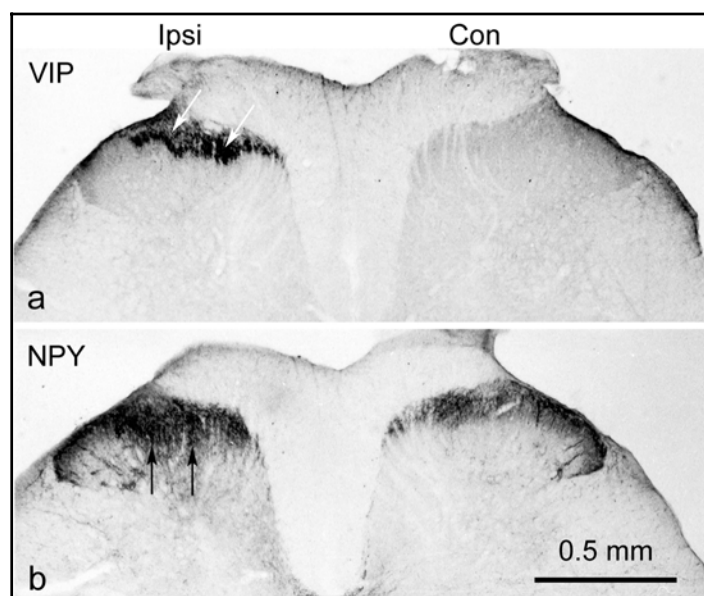
The group contributed to the Second Emirates Neuroscience Conference in Dubai October 2003.

Grants (New and continuation)

Fahim, (FMHS)
 MY Hasan, Fahim (FMHS)
 Adem, Fahim (UAEU)
 Morrison and Adem (FMHS)
 Adeghate (FMHS)
 Adeghate, Padmanabhan (UAEU)
 Padmanabhan (UAEU)

Shehab, Padmanabhan (FMHS)
 Shehab, Padmanabhan (UAEU)
 Al-Gazali, Gururaj, Eapen et al (Hamdan)
 Eapen et al (Hamdan)
 Eapen et al (Terry Fox)
 Garey and Lukic (FMHS)
 Lammers, Lubisavijevic et al (FMHS)
 Lubisavijevic (FMHS)
 Morrison (FMHS)
 Morrison, Lubisavijevic, Adem, Conlon, Mensah-Brown (Hamdan)
 Nowotny, Eapen et al (FMHS)

The group is actively pursuing affiliation with international organisations including the International Brain Research Organization (IBRO). We are currently working on the necessary documentation for this, which includes bye-laws and regulations, and membership list. This affiliation will apply in sensu strictu to the Emirates Neuroscience Society, but the close association with the Faculty Group should be of benefit to both parties.



Two adjacent transverse sections of the 4th lumbar spinal segment stained immunocytochemically for vasoactive intestinal polypeptide (VIP) and neuropeptide Y (NPY) of a rat underwent unilateral sciatic nerve section 2 weeks previously. Note that this nerve lesion causes a dramatic VIP upregulation in the superficial laminae (I-II) of the dorsal horn (white arrows in a) in the ipsilateral side (Ipsi) compared with control side (Con.). In comparison NPY immunoreactivity is increased in the deeper laminae (III-IV) (black arrows in b).

Trauma Research Group. Report 2003



Annual Report (2003)

Summary

The activities of the Trauma Group expanded in this year compared with year 2002. The group has presented more than forty abstracts and oral presentations at national and international meetings. The data of two research projects has been completed. Furthermore there are three projects running in Al-Ain Hospital and two projects in collaboration with the Center for Teaching and Research in Disaster Medicine, Linköping University. The group has been actively involved in teaching trauma management both locally and nationally for both doctors and the community. Change of ideas during the monthly Trauma Forum was successful and played a key role in establishing new research projects. Funds for establishment of a Trauma Registry have been raised and the data for the first six months have been completed. The group continued to stimulate hospital doctors to participate in Trauma Research by running a regular weekly journal club and introducing them to Evidenced Base Medicine. This has also included a successful workshop on Medical writing as part of the 11th Surgical UAE conference. The group has won four national and international prizes for their research activities last year. The group has also been recognized internationally. Members of the group were invited to participate and chair sessions in the 2nd Mediterranean Emergency Medicine and were invited to teach in other

countries and serve on the advisory boards of international journals as recognition of the active role of the Trauma group.

Mission

The trauma group has officially started its activities on 18th June 2002 under the umbrella of the Faculty of Medicine and Health Science with participation of members of the Ministry of Health. The group has the mission to promote and perform high standard research and education in the field of trauma so as to improve medical care of patients. The group's activity has expanded and attracted attention and recognition both nationally and internationally.

Major achievements of the Trauma Group

A) Trauma registry

The group has secured funding and physical space to establish a Trauma Registry in Al-Ain Hospital. The group has been successful with the Award of 38,000 Dirhams from the UAE University and the Research Grants Committee. Data entry for the first six months has been completed. Preliminary analysis shows interesting data. (Table 1) These results have been recently presented in Barcelona/Spain and has attracted a lot of attention.

B) Prizes

I. Talib Mansour won the **FMHS Stu-**

dent Research Prize of the Fourth Annual UAE University Research Conference, for the project titled “ Behavior of Bicyclists in Al-Ain City, UAE: An observational study”. (Figure 1)

Cause of injury		
Cause	Number	%
Road traffic accident	172	37.4
Fall from height	92	18.3
Falling down	74	14.7
Burn	27	5.4
Fall of heavy object	27	5.4
Machine injury	22	4.4
Assault	20	4
Others	53	10.5
Total	503	100

Table 1: Establishment of the Trauma Registry helped to understand the nature of injury in Al-Ain City



Figure 1: Trauma prevention is one of the major interests of the group. The trauma group has studied the behavior of bicyclists at Al-Ain City on the main roads. The standards of cycling safety were alarmingly low. (Emirates Medical Journal, in press)

2. The Trauma Group has won **Sheikha Fatima Bin Mubarak Road Safety Prize** which was organized by the Emirates Red Crescent, UAE, 2003 for the same project.
3. Dr Abu-Zidan won the **Best Poster Prize** of the Contraversies in Civilian and Military Trauma Conference, 10-11th May 2003, Brisbane, Australia for the project entitled “A teaching model for

diagnosis of intra-thoracic and intra-abdominal fluids in pigs”. (Figure 2)

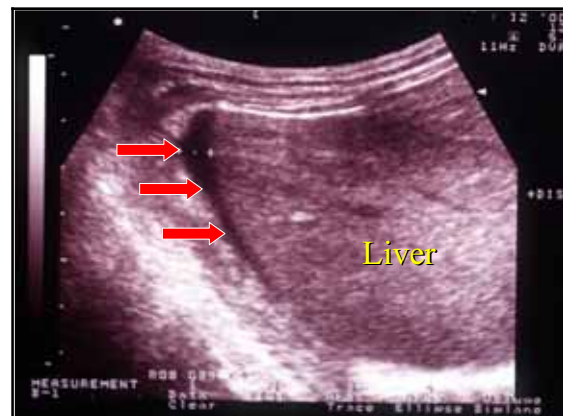


Figure 2: A novel teaching animal model for sonographic diagnosis of trauma (J Trauma, 2004)

4. **Dr Ibrahim T won Sheikha Fatima Bin Mubarak Road Safety Prize** which was organized by the Emirates Red Crescent, UAE, 2003 for his project titled renovation program for ambulance and Emergency Departments in UAE.

C) International recognition

1. Dr Abu-Zidan was selected as a Member of the Advisory Board of International Journal Disaster Medicine (Since 2003). (The first of international journal exclusively for the field of Disaster Medicine). He was invited to write two review articles for the journal in international expertise area. This gave the group a chance to be recognized internationally
2. Dr Abu-Zidan was selected as Member of the International Advisory Board of the Second Mediterranean Emergency Medicine Congress, Barcelona, Spain, 13-17 September 2003. This gave a chance to nominate two members of the group to chair Trauma Research sessions in the congress. The work of the group was highly appreciated especially the establishment of the trauma registry and the trauma prevention research.

D) Chairs of sessions in national and international meetings

- 1) Ibrahim T (UAE), Rodgers K (USA). Administration in Emergency Department (1 hour). 2nd Mediterranean Emergency Medicine Congress, Stiges/Barcelona (13-17 Sept 2003).
- 2) Abu-Zidan FM. Surgical sepsis. First Abu Dhabi Surgical Meeting. Abu Dhabi 30 April 1 May 2003.
- 3) Rayan J (UK), Abu-Zidan FM (UAE). Trauma and Emergency Medicine Oral abstract presentations (3 hours). 2nd Mediterranean Emergency Medicine Congress, Stiges/Barcelona (13-17 Sept 2003).
- 4) Abu-Zidan FM (UAE), Thompson P (UK). Ultrasound in Emergency Medicine (1 hour). 2nd Mediterranean Emergency Medicine Congress, Stiges/Barcelona (13-17 Sept 2003).
- 5) Abu-Zidan FM (UAE), Wolfe R (USA). The main auditorium Trauma Track (Track A) (3 hours). 2nd Mediterranean Emergency Medicine Congress, Stiges/Barcelona (13-17 Sept 2003).
- 6) Abu-Zidan FM. Getting started. Medical writing workshop. 5th October 2003, Abu-Dhabi.
- 7) Abu-Zidan FM, Ramadan K. Trauma research oral abstract presentations session. 11th UAE Surgical Conference (Abu Dhabi 6-8 October 2003).

E) International teaching

Dr Abu-Zidan was invited to be a speaker and instructor in two day Ultrasound Workshop on Emergency Ultrasound prior to the Second Mediterranean Emergency Medicine Congress, Stiges/Barcelona (13-17 September 2003).

F) Publications and Abstracts

The group has published 6 papers related to trauma in international referred journals. Two more papers are in press. The group has also submitted another five papers for publication and presented more than forty abstracts and oral presentations at national and international meetings. For details of these publications and presentations see the relevant departmental reports.

Organization of Scientific Meetings and Seminars

The trauma group was actively involved the organization and running of these meetings

- 1) 11th UAE Surgical Conference (Abu-Dhabi 6-8 October 2003).
- 2) Medical Writing Workshop, 5th October 2003, Abu-Dhabi.
- 3) Trauma CME Symposium. Al-Ain, 5th March 2003.
- 4) Emirates International Disaster and Trauma Congress, Abu-Dhabi 12-18 April 2003.

Successful Grants

1. Establishment of a Trauma Registry at AL-Ain City.
UAE University, 2002
2. Establishment of a Trauma Registry at AL-Ain City.
FMHS Research Grant, 2003
3. Scapular fractures and associated injuries.
FMHS Research Grant, 2003

The 2nd Scientific Conference for Medical Students in the GCC Countries

January 25-28, 2004



“The 2nd Scientific Conference for Medical Students in the GCC Countries”

January 25-28, 2004

The conference was officially launched at a press conference held in Sheikh Khalifa auditorium on September 14, 2003. Organization of the conference involved more than 100 students from across the curriculum and more than 150 academic and non-academic staff from the Faculty of Medicine and Health Sciences and from other parts of the University. Several student committees (Scientific –Chairperson Noura Al Kuwaiti, Registration - Chairperson Budoor Al Shehhi, Finance –Chairperson Dr Taleb Al Mansoor, Public Relations –Chairperson Mohammed Al Awadhi, Facilities –Chairperson Ahmeed Al Bannai, Social Committees –Chairpersons Khaleil Al Matroushi and Nawar Al Falasi) managed the overall organization of the conference. The whole operation was co-ordinated by Dr Abdulkareem Sultan Al Olama with advice and support from Dr Christopher Howarth and Dr Mohammed Hassan and under the leadership of Professor George Carruthers, Dean, Faculty of Medicine and Health Sciences.

The conference was attended by delegates from 31 different countries. Some of the larger delegations came from UAE, Saudi Arabia, Sudan, Kuwait, Oman, Bahrain, Iran, UK and Australia. The total number of delegates registered for the conference was 784 and an unknown number attended without registering. Numbers on site during opening day activities may have exceeded 1000 delegates.

The Opening Ceremony included addresses by HE Sheikh Nahayan Mabarrak Al-Nahayan (Supreme Chancellor of the

University), Professor George Carruthers (Dean, Faculty of Medicine & Health Sciences) and Dr Abdulkareem Sultan Al Olama (Conference Coordinator), a keynote presentation by Professor Sir Magdi Yacoub and a film entitled: “Why become a Doctor”. The opening ceremonies drew to a close with the inauguration of the 1st GCC Medical Exhibition.

Conference activities included keynote addresses, oral and poster communications, workshops, social and cultural events and a Medical Exhibition.

Keynote addresses were presented by Professor Sir Magdi Yacoub (Imperial College London, Heart Science Centre, Harefield, UK), Professor Nuala Kenny (Dalhousie Medical School, Canada), Professor Angelo Azzi (University of Bern, Switzerland), Dr Amer Awadh Al-Rawas (Omantel Telecommunications Company, Oman), Dr Abdulla Al Naeemi (Zayed Military Hospital, UAE) and Professor Najeeb Al Khajah (Dubai Hospital).

There were more than 80 oral communications and 140 posters. Themes for oral presentations included: Curriculum development, Neurosciences, Immunopathology and Allergy, Medical students and society, Community based studies of infectious diseases, Molecular genetic basis of malignancies, Infection and immunity, Public health issues in the Arab world, Pathophysiology and clinical aspects of cardiovascular disorders, Metabolic and pharmacological studies, Women’s health, Diabetes and endocrinopathies. Themes for posters included

Biomedical investigations, Clinical studies, Community studies, Curriculum related topics, Ethics.

There were 10 workshops and topics included: Use of PDA devices in medicine, Ethics, Airway management, Interpretation of ECG, Planning post-graduate training, Basic skills in laproscopic and open surgery, Basic surgical skills, Medical illustration, Team management and Concept mapping in medical schools.

A wide variety of social events were organized including a Poetry night, Tours in Al Ain (Al-Ain museum, Sultan fort, Al Ain Palace Museum), Dubai (Dubai museum, Global Heritage Village followed by a dhow dinner cruise along the creek starting from Al Boom), Sharjah (Natural History museum), and in Abu Dhabi (Corniche Marina complex followed by dinner at the Millenium Hotel).

Keynote abstracts, oral and poster abstracts, details of the workshops and sponsorship information were published in a special supplement of the Emirates Medical Journal (2004; 22,1). Details of the scientific program together with information about conference organization, keynote speakers, workshops, social events and sponsors were published separately by the United Arab Emirates University Press. Abstracts from "The 1st Scientific Conference for Medical Students in the GCC Countries", which was held at the Arabian Gulf University in Bahrain, and the 2nd scientific conference have been collected into a database which can be found at the following website address: www.gccmsr.com

Conference activities were accommodated in the Faculty of Medicine & Health Sciences and in two large tents located in the Faculty grounds. The main ceremonies were held in Sheikh Khalifa auditorium. Oral presentations were arranged on a daily basis as three parallel sessions in Sheikh Khalifa auditorium, Yana/Sheikha Fatima theatres and the Learning Resource

Centers. A total of 10 workshops were held in various classrooms and skills laboratories. The Medical Exhibition was held in a large 2000 m² exhibition tent. Exhibitors included many sponsors, commercial organizations, embassies and charities in more than 80 display booths. The tent also accommodated a small seminar room and various catering outlets. Four large plasma screens showing the daily program and other conference information were located at the entrance to the Faculty and in the Exhibition Tent, Tawam Hospital and Al Ain Hospital. Another tent, alongside the Exhibition Tent, provided for catering.

The Closing ceremony included addresses by Dr Rafiah Ghubash (President of Arabian Gulf University) and Dr Abdulkareem Al Olama (Conference Coordinator), a presentation by the Kuwait delegation who will host the conference in 2005, a presentation showing highlights of the conference and a film entitled: "A child's view of Medicine". Proceedings were brought to a close with an awards ceremony which included awards for the best five oral and best five poster presentations. Recipients of the oral awards came from Australia, Bahrain, Canada, Oman and the United Arab Emirates. Recipients of poster awards came from England (2), Saudi Arabia (2), and Kuwait.

The conference was generously supported by a large number of organizations including: United Arab Emirates University, Faculty of Medicine & Health Sciences, General Authority for Health Services Abu Dhabi, Julphar, Al Ain Economic Development & Tourism Promotion Authority, Gulf Drug Establishment, University Bookshop Sharjah, Towry Law, City Pharmacy, Emirates International Hospital, Al Noor Hospital, Johnson & Johnson, Abu Dhabi National Bank, Paris Gallery, Sheikh Hamdan Bin Rashid Al Maktoum Award for Medical Sciences and Al Badad Tents. Overall support for the conference exceeded Dhs 1,000,000

6/3/04



Pictures taken of activities and events during the conference.

Impact Factor

Am J Cardiol	3.059	Current Psychiatry	-
Am Fam Physician	1.258	Dev Med Child Neuro	1.898
Am J Hum Genet	11.602	Develop and Reprod Toxicology	-
Am J Med Genet	2.603	Diagn Cytopathology	1.092
Am J Physiol	3.421	Diagn Microbiol Infect Dis	2.032
Am J Psychotherapy	-	Eastern Mediter Health Journal	-
Ann Allergy Asthma Immunol	2.181	Emirates Medical Journal	-
Ann Clinical Biochemistry	1.242	Endocrine Practice	-
Ann Tropical Paediatrics	0.704	Endocrine Res	0.662
Antimicrob Agents Ch	4.246	Epidemiol Infect	0.241
Appl Environ Microb	3.820	Epileptic Disord	0.804
Arch Gynecol Obstet	-	Eur J Cardiothorac Surg	1.465
Arch of Gerontol Geriat	0.500	Eur J Surg	0.516
Asia Pacific Family Medicine	-	Eur Psychiat	1.329
Australian Journal of Rural Health	-	Eur Surg Res	0.706
Ber Münch Tierärztl	0.622	Eur J Clin Microbiol Infect Dis	1.477
Biochem Biophys Res Comm	2.836	Eur J Clin Nutr	1.864
Birth Defects Research	0.796	Eur Ann Allergy Imm	-
Brain Pathol	3.838	Exp Neurol	3.676
Brain Res	2.474	Free Radical Res	2.743
British J Plast Surg	0.812	Gerontologist	-
British J Sports Med	1.253	Gerontology	1.600
Canadian J Psychiatry	2.071	Growth Factors	1.652
Cellular & Mol Life Sciences	4.995	Hum Mol Genet	8.597
Čes.-slov.Pediat.	-	Hypertens Res	2.013
Circulation	11.164	Injury	0.511
Clin Auton Res	1.237	Int J Derm	0.736
Clin Chem	5.538	Int J Gynecolo Obstet	0.800
Clin Dysmorphol	0.649	Int J Diabetes and Metabolism	-
Clinical and Molecular Teratology	-	Int J Neuroscience	0.579
Clinical Biochem	1.825	Int J Orthopedics	-
Clinical Science	2.117	Int J Quality in Health Care	-
Congenital Anomalies	-	Int Qurt Commun Health Edu	-
Crit Care Med	4.195	J Am Coll Cardiol	7.599

J Am Academy of Dermatology	2.971	Neurosci Lett	1.967
J Am College of Cardiology	7.599	Neurosci Res Communication	0.481
J Appl Toxicol	1.272	New Zealand Medical Journal	-
J Autoimmunity	2.353	Nutr Res	0.717
J Biol Chem	6.482	Pan A Derm	-
J Bone and Joint Surgery	1.921	Pancreatology	1.596
J Clin Endocrinol Metab	5.873	Pediat Research	3.064
J Clin Pharmacol	1.945	Pediatr Hematol Oncol	0.671
J Clinical Investigation	14.307	Peptides	2.440
J Cont Edu in Health Professions	-	Pharmacopsychiatry	2.777
J Eval Clin Pract	1.205	Physica A	1.180
J Free Radical Research		Postgraduate Doctor (Caribbean)	-
J Gen. Virol	3.036	Psych and Clinical Neuroscience	0.736
J Med Genet	6.868	Regul Peptides	2.235
J Med Microbiol	1.987	Reprod Toxicol	1.868
J Pediatr Adolesc Gynecol	-	Resuscitation	1.375
J Pediatrics	2.913	Saudi Medical Journal	0.306
J Peptide Res	1.545	Seizure	1.102
J Perinat Med	0.790	Singapore Med J	-
J Tox-Clin Tox	1.633	Skin Med J	-
J Trop Pediatr	0.514	Stem Cells	5.802
J Zoo and Wildlife Medicine	0.168	Supportive Care Cancer	1.367
Lancet	18.316	Teratology	2.013
Life Sci	1.944	Toxicol Appl Pharm	2.851
Maturitas	2.045	Toxicology	2.061
Med Educ	1.188	Transplant Proc	0.588
Med Hypotheses	0.684	Urol Res	1.017
Medical Mycol	2.112	Vet Hum Toxicol	0.440
Medical Science Monitor	-	Vet Rec	1.172
Medical Teacher	0.893	Virology	3.391
Medical Teaching	-	Virus Res	1.719
Methods in Enzymology	1.618	Vojenské zdravotnické listy	-
Microbes and Infection	3.772	Wien Klin Wochenschr	0.774
Middle E J Emerg Med	-	Wien Tierärztl Monat	0.250
Modern Medicine	-		
Mol Cell Biochem	1.763		
Mol Cell	16.835		
Mol Immunol	2.827		
Neuropediatrics	1.383		

لقد تشرفت بالقيام بدور منسق كلية الطب والعلوم الصحية لصندوق مؤسسة تيري فوكس لأبحاث السرطان خلال العام المنصرم. وإنني أجد نفسي عاجزا عن التعبير عن مدى سعادتني وأنا أرى ذلك "الجيش" الجرار من المتطوعين المشاركين في السباق بقيادة وتشجيع السفير الكندي لدى دولة الإمارات العربية المتحدة، والقنصل العام الكندي بدبي، وقيادات وأعضاء مجلس رجال الأعمال الكنديين، والمدرسين ومختلف القيادات بأبوظبي ودبي حيث تنظم سباقات التبرع لدعم الصندوق. و كان العنصر الوحيد المفقود هو نحن، من العين ! وإنني أرجو منكم تخصيص بضع ساعات خلال شهر فبراير في أي من المدينتين للحضور كمشاركين في سباق تيري فوكس والتبرع ببعض الدراهم تعزيزاً لمبلغ نصف المليون درهم المخصصة لأبحاث السرطان بدولة الإمارات العربية المتحدة.

سيشهد شهر ديسمبر 2004 عرضاً آخر للإنجازات البحثية بدولة الإمارات العربية المتحدة وفي حفل توزيع جائزة الشيخ حمدان بن راشد آل مكتوم سيكرم الباحثون على المستوى المحلي والعالمي في مجالات محددة، كما ستعلن أسماء الفائزين بالمنح البحثية لعام 2004-2006 وذلك في جو احتفالي بمؤتمر البحوث الذي سيشترك فيه الفائزون بجائزة الشيخ حمدان وغيرهم من الشخصيات العلمية. وهناك ما يدعو جامعة الإمارات العربية المتحدة وكلية الطب والعلوم الصحية للتعبير عن أسى الشكر والامتنان لما يتمتع به صاحب السمو الشيخ حمدان بن راشد آل مكتوم من رؤية ثاقبة وكرم فياض. فقد تمكنا من استقطاب باحثين ذوي قدرات أفضل، حيث يمكن أن تجد أنشطتهم الدعم على نحو ما كان بمستطاع توفيره بغير ذلك.

إذا عدنا للحديث عن الأمور الأكثر محلية، فقد طالبنا بتوفير فرص أوسع للفائزين بالمنح التخصصية في كلية الطب والعلوم الصحية أو جامعة الإمارات العربية المتحدة وأعضاء هيئة التدريس المتأهلين للحصول على إجازات حضور المؤتمرات لتقديم أعمالهم بالخارج حتى يستطيعوا إعلام البقية من زملائهم عن أنشطتهم البحثية أو أعمالهم البحثية القادمة. واعتباراً من العام الدراسي 2004-2005 ستزداد وتيرة انعقاد سمناات البحوث لكي تعكس بصورة أفضل هذه النجاحات، وتساعد في تحسين رؤية البعض من جماعات الأولويات البحثية ومن المؤمل أن تساعد هذه السمناات في ابتداع أفكار يكون من شأنها تعزيز النشاط البحثي الحالي أو طرح مسائل جديدة ومداخل لحلها. و مما لا شك فيه أننا سنستفيد أيضاً من تقاسم المعارف الجماعية وخبرات القياديين الأكاديميين الذين انضموا إلينا مؤخراً وأعضاء هيئة التدريس الجدد.

في حفل توزيع جوائز كلية الطب والعلوم الصحية لعام 2004 أتاحت لنا الفرصة لتكريم عدد من الأشخاص والمجموعات الذين تجاوز عطاؤهم في مجال التدريس والبحوث وخدمة الجامعة والمجتمع حدود التوقعات العادية. وقد استخدمت تعبير "جائزة الأهمية الكبيرة" كتشبيه مجازي لتقدير شخص يصعب "ملء حذاءه" إذا كان لا يشغل دوره الحالي في كليتنا. لقد أخبرني الكثيرين منكم في جلسات خاصة عن مدى سرورهم لتكريم أ. د. ميودراج لوكيج لرئاسته ومساهماته الشخصية لقسم الأحياء الدقيقة و عمادة البحوث العلمية. و دوري أشير إلى أن أ. د. ميودراج والفريق العامل معه يستحقون خالص تقديرنا لعام آخر من النجاحات، كما ونعرب عن تقديرنا أيضاً للأستاذ الدكتور ويم لامرز لما بذله من مجهودات في جمع وتحرير وتقديم هذا العدد.

أتمنى لكم مزيداً من النجاحات في العام الدراسي الجديد.

جورج كروذر
عميد الكلية

الزملاء الأعزاء

استمتع الباحثون في كلية الطب والعلوم الصحية بسنة أخرى جد ناجحة، وإنني أتقدم بالتهنئة لأعضاء هيئة التدريس الذين وردت أعمالهم في هذا الدليل وللزملاء والفنيين والسكرتاريين والطلبة والمتطوعين الذين كان لجهودهم أثر كبير في التوصل لهذه الإحصائيات، و إنها لمتعة حقيقية أن نرى عدداً جد كبير من طلبتنا يشاركون في الدراسات البحثية، وأن نستمع لهم مباشرة وهم يحدثوننا عن تقديرهم العميق للأساتذة والفنيين الذين يرحبون بهم في مختبراتهم ويحرصون على اقتسام أوقاتهم وخبراتهم معهم. و نحن كذلك محظوظين لوجود عدد من المتطوعين الذين ساهمت معارفهم ومهاراتهم الاستثنائية مساهمة كبيرة في النجاح والإنتاجية التي شهدتها مختبراتهم.

ما من شك في أن التطور الكلي في قطاع البحث العلمي ظل يجد دعماً قوياً من الإدارة العليا لجامعة الإمارات العربية المتحدة، ونحن ممتنون بصفة خاصة لسعادة نائب المدير للبحث العلمي الدكتور/ ميثاء الشامسي (تم تغيير المسمى الوظيفي اعتباراً من 2004/9/1 إلى مساعد نائب المدير لشئون البحث العلمي وذلك بموجب قرار الرئيس الأعلى رقم 2004/117 بشأن الهيكل التنظيمي للجامعة) ومستشارها الأستاذ الدكتور/ غريب علي الذي ظل يسعى دائماً لتعزيز الرؤية والفرص في القطاع ويعمل دون كلل أو ملل لإحداث تحسين كمي ونوعي في البحوث العلمية التي تجرى في جامعة الإمارات العربية المتحدة. وقد استفادت كلية الطب والعلوم الصحية من خلال المنافسة بنجاح للحصول على منح البحوث التخصصية ومنح البحوث البينية، وجائزة البحوث المشتركة بين جامعة الإمارات العربية المتحدة وجامعة السلطان قابوس، وجائزة التعاون البحثي في دول مجلس التعاون الخليجي والبدء في مشروع بحثي مع مؤسسة آر. تي. أي، وغير ذلك من الفرص التي يوفرها القطاع الخاص.

كانت أنشطة مجموعات الأولويات البحثية متنوعة، تدل بوضوح شديد على النضج الذي تتمتع به كل مجموعة ومواطن القوة البحثية لدى المجموعة. ومن المؤمل أن تستفيد المشاريع التي ليست لها سوى فرصة ضعيفة في النجاح عبر المجهودات الفردية مما للمجموعة من معارف وطاقات ومجهودات. لقد أدى انعدام نظام متماسك لجمع المعلومات والمعلوماتية الطبية إلى تأخير إنشاء السجلات المطلوبة في العديد من المجالات الصحية الهامة مثل الإصابات الرضحية "الرضوض" وحوادث السير والمرور، والسرطان، وأمراض القلب، والتشوهات الوراثية، وجميعها تعتبر عوامل رئيسية لارتفاع نسبة الأمراض والوفيات بدولة الإمارات العربية المتحدة. وبالنسبة للتحسينات الجزئية التي أجريت فإننا ممتنون للمجهودات الرائدة التي بذلها جميع المساهمين. و نحن في كلية الطب نجدد التزامنا بمساندة الأطر الحالية وصولاً إلى أنظمة معلومات قومية حقيقية توفر القاعدة الأساسية لبحوث وابتكارات عالية الجودة في التشخيص والوقاية والعلاج. كما يجب ألا تقتصر جهودنا في هذه الجوانب الهامة من حياة الإماراتيين فقط على البحوث في اللبانيات أو المجالات الطبية الأحيائية، بل يجب علينا تعزيز مشاركتنا وإسهامنا مع الكليات والجامعات والقطاع الخاص وقادة الفكر في المجتمع. ومثال لما يمكن إنجازه في هذا الصدد مشروع السلامة المرورية الذي تقوم به كلية الهندسة وكلية الطب والعلوم الصحية بالتعاون مع جنرال موتورز (هولندا) وجامعة موناخ بأستراليا.

كان العام الدراسي 2004/2003 حافلاً بالعديد من مؤتمرات البحوث، ولكن لم يكن لأي منها ذلك التفرد والحيوية التي اتصف بها المؤتمر العلمي الثاني لطلبة كليات الطب بدول مجلس التعاون الخليجي الذي جذب أكثر من 600 مشارك من 34 دولة إلى العين في يناير 2004، وجدير بالذكر أن طلبتنا الذين تولى قيادتهم بكفاءة واقتدار د. عبدالكريم سلطان العلماء وقدم لهم المساعدة الأساسية الدكتور/ كريس هاوارث الأستاذ بقسم وظائف الأعضاء جميعهم يستحقون الثناء والتقدير لهذا الإنجاز الرائع !

هذا هو العدد الثالث عشر من الدليل السنوي للبحوث العلمية التي تجريها كلية الطب والعلوم الصحية خلال عام 2003. ويمثل هذا الدليل استمراراً لسلسلة إصدارات البحوث السنوية، كما يقف شاهداً على الالتزام الثابت والنجاح في جهودنا البحثية المشتركة.

وكما هو دأبنا في كل عام، فإننا نسعى لإحداث تحسين نوعي في هذا الدليل، وهذا العام ليس استثناءً من هذه القاعدة، وقد واصلنا تضمين لمحات عن البحوث، لأنه يبدو أن معظم القراء يقدرون هذا التوسع، وكذلك واصلنا تقديم تقارير مجموعات الأولويات البحثية.

كذلك استضافت الكلية المؤتمر العلمي الثاني الناجح الذي نظمته كلية الطب بدول مجلس التعاون الخليجي، وقد خصصنا قليلاً من الصفحات للحديث عن هذه المناسبة الخاصة.

أخيراً، لعلكم تذكرون أن التصميم العام للعدد الأخير من الدليل اختلف كثيراً عن الأعداد السابقة. ومع العون المتواصل من الأنسة إيفانا ليزاريتوري والأنسة شيخة المزروعي، واصلنا السير في هذه الطريق حيث أضيف العديد من التحسينات لتصميم الدليل استناداً إلى خبراتنا وبعض الملاحظات من هنا وهناك.

بالإنابة عن جميع الأشخاص الذين ساهموا في إخراج هذا الدليل، نتمنى لكم إنجازات جديدة ومثيرة في بيئتنا البحثية.

أ.د. ميودراج لوكيچ
العميد المشارك للبحث العلمي

أ.د. ويم لامرز
رئيس التحرير

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النشر العلمي لعام 2003 وملخصات البحوث

مكتب العميد المشارك للبحث العلمي

