



برنامج أبحاث المؤشرات الحيوية
Bimarkers Research Program



كرسي الأمير متعب بن عبد الله بن عبد العزيز
للأبحاث المؤشرات الحيوية لهشاشة العظام
Prince Mutaib Chair of Biomarkers in Osteoporosis

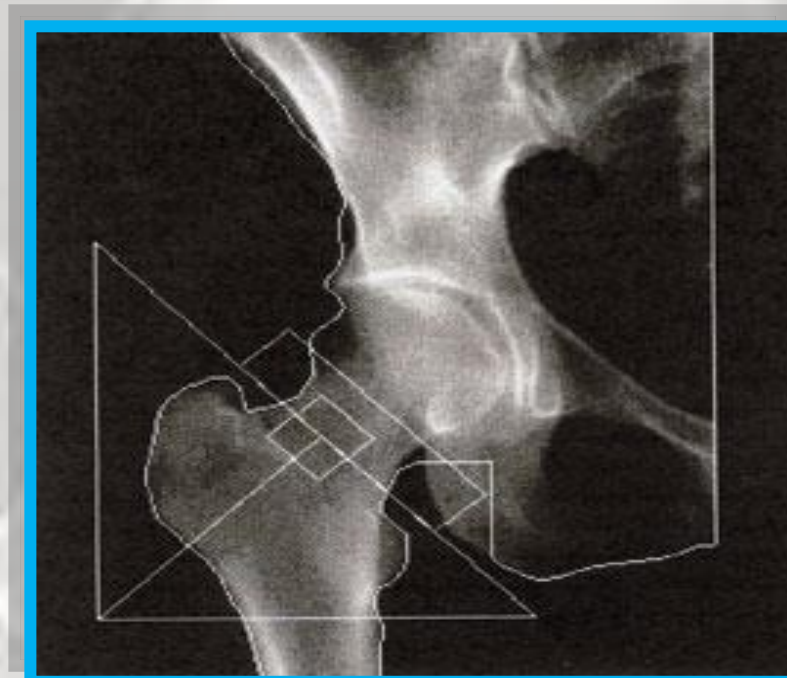


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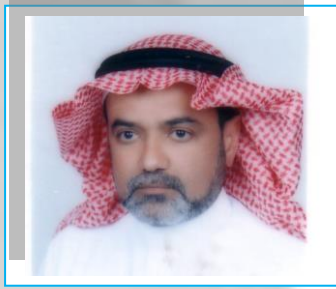
Prince Mutaib Bin Abdullah

Osteoporosis Chair Lecture Series & Workshop Program

Riyadh- Thursday, 23rd Of December 2010



Proceedings



Message from the Chairman

Dr. Nasser Al-Daghri

As Chairman of PMCO, I present to you with pride the 1st Prince Mutaib Bin Abdullah Chair for Osteoporosis Lecture Series. As the first among a series of lectures ahead, our primary aim for this event is to assemble the kingdom's top experts in the field of osteoporosis with the hope of identifying focal issues that will be the basis of future scientific and clinical research in the field of osteoporosis. I thank our invited speakers for gracing this activity and for sharing their knowledge to the academic and medical community.

For those of us who have been in this field for quite some time, we are already aware of what osteoporosis can do to debilitate its victims. We also know the extent of its damage in the Saudi community in terms of economic and social aspects. Yet despite everything that we have, osteoporosis remains greatly under diagnosed and under treated. Reversing the cumulative effects of osteoporosis in the Saudi population maybe as slow as the disease itself. The best time to start is now, and best way to start is through education.

To all the participants, I personally thank you for your support in this activity. We hope that your participation will not be limited to the personal knowledge that you will gain, but will also be a stepping stone to take charge and responsibility in your respective areas in terms of minimizing, if not eradicating osteoporosis.

I fervently hope this initial activity will be the breeding ground for future and more productive activities for PMCO, as well as an assembly of the best local and foreign experts in osteoporosis here in the Kingdom of Saudi Arabia.

All the best.

Dr. Nasser Al-Daghri
CHAIRMAN

Prince Mutaib Chair for Osteoporosis

SCIENTIFIC PROGRAM

TIME	AGENDA	SPEAKER
AM		
8:00 – 9:00	Registration	
OSTEOPOROSIS AT A GLANCE		
<i>Chairman: Dr. Nasser Al-Daghri</i>		
9:00 – 9:05	Opening Remarks	Dr. Nasser Al-Daghri (KSU)
9:05 – 9:35	Epidemiology of Osteoporosis	Prof. Mohammed Ardawi (KAU)
9:40 -10:10	Pathophysiology of Osteoporosis	Dr. Mohammad Al-Shaker (KFSH&RC)
10:10- 10:40	Diagnosis and Frax Risk Assessment Tool	Dr. Mona Fouda (KSU)
10:40 – 10:55	Open Forum	
10:55 -11:10	Coffee break	
VITAL VITAMIN D		
<i>Chairman: Prof. Mohammed Ardawi</i>		
11:10-11:40.	Vitamin D Deficiency	Dr. Safia Sherbeeni (KFMC)
11:40-12:10	Vitamin D and Metabolic Syndrome	Dr. Nasser Al-Daghri (KSU)
PM		
12:10 -12:40	Vitamin D and Autoimmune Disease	Dr. Naji Al-Johani (KFMC)
12:40 – 12:55	Open Forum	
12:55 – 13:55	Zuhr prayer/Lunch	
CALL TO ACTION		
<i>Chairman: Dr. Nasser Al-Daghri</i>		
13:55-14:25	Treatment of Osteoporosis	Dr.Yousef Al Saleh (KFNGH)
14:25-14:55	Screening and Prevention	Dr. Hussein Raef (KFSH&RC)
14:55- 15:05	Open Forum	
15:05- 15:55	Prince Mutaib Chair: Strategic Planning	Dr. Khalid Alkharfy (KSU)
15:55 – 16:00	Closing Remarks	Dr. Khalid Alkharfy (KSU)

December 23, 2010, Thursday, College of Medicine Main Auditorium, King Saud University, Riyadh, KSA

TREATMENT OF OSTEOPOROSIS

In the past 30 years, major strides have been made in the treatment of osteoporosis. Evidence-based reports systematically reviewing the data from randomized clinical trials, including meta-analyses for each of the major treatments, are available and permit conclusions regarding the role of each modality of osteoporosis therapy.

In the past there were very few agents to treat osteoporosis. Therapy for the disease went into considerable changes with multiple agents available now for treating osteoporosis. The availability of these agents made many options for the treating physician to select the appropriate medication for each patient. This presentation will address these agents in summary.

Speaker: Dr. Yousef Mohammed Saleh

For more than a decade, Dr. Yousef Saleh has been primarily an endocrinologist consultant at King Fahad National Guard Hospital. His reputable medical and research experience as to the local status of endocrine diseases in the kingdom has earned him key positions in the local medical community including the Saudi Osteoporosis Society of which he is Secretary General and Chairman of various scientific committees. Dr. Yousef's vast knowledge and experience in his chosen career has also earned him vital roles in several medical training programs including, but not limited to, the Saudi Commission for Health Specialties.

Vitamin D and Autoimmune Disease

Vitamin D deficiency is a common health problem all over the world including Saudi Arabia and Gulf countries. It is associated with several diseases not only restricted to bone health but also other extra-skeletal including autoimmune system. Vitamin D as a part of the endocrine system is an important component in the interaction between the kidney, bone, parathyroid hormone, and the intestine, which maintains extracellular calcium level within normal limits, in order to keep the vital physiologic process and skeletal integrity. Vitamin D is also associated with hypertension, muscular function, immunity, and ability to encounter infection, autoimmune disease, and cancer. Epidemiological evidence indicates a significant association between vitamin D deficiency and an increased incidence of autoimmune diseases. The presence of vitamin D receptors in the cells of the immune system and the fact that several of these cells produce the vitamin D hormone suggested that vitamin D could have immunoregulatory properties and now potent immuno-modulatory activities on dendritic cell.¹ 25-dihydroxyvitamin D₃ exerts its effect via the vitamin D receptor (VDR) that belongs to the steroid/thyroid hormone receptor super family leading to gene regulation mediating various biological responses. This receptor has been shown to be present not only in bone, kidney and intestine but also in many other tissues, e.g.: in the immune system, in the endocrine system in the reproductive system, muscles skin, liver and others.

Speaker: Dr. Naji AlJohani

Dr. Naji AlJohani started his promising career as an endocrinologist consultant at King Fahad Medical City who specializes in thyroid endocrinology. More than just a clinician, Dr. AlJohani is also active in the field of basic research and is very much involved in several key studies that are currently in progress at KFMC. He has an extensive list of attended academic and clinical events both local and international, which clearly shows his passion to be kept informed and adept in the continuously evolving field of endocrinology.

Screening And Prevention Of Osteoporosis

Osteoporosis has become a major health problem worldwide. The medical and economical burden of the disease is suspected to soar in the coming years in the region. On the other hand, the cost of treatment and prevention of osteoporosis can be equally high and clear guidelines are therefore, needed for screening and treatment of the disease.

Age seems to be the most commonly used indicator for screening, however, regional differences dictates adjustment of the age threshold at which screening is indicated. Other strategies can use clinical risk factors in younger population. Strategies for prevention of osteoporosis are variable and may prove to be the most cost effective approach to this problem. Prevention can focus on improving "peak bone density" among youth with some evidence for effectiveness of nutritional and exercise interventions. Decreasing bone loss is another strategy by controlling risk factors and encouraging healthy lifestyles. Prevention can also be looked at in terms of preventing fractures in patients with osteoporosis (primary prevention) or in somebody with known osteoporotic fracture (secondary prevention). In this case, clear treatment guidelines are useful using BMD and risk factors like the "FRAX tool" or "NICE guidelines". Verification of these tools is needed, however, to assure its validity in our region.

Speaker: Dr. Hussein Raef

Dr. Hussein Raef is an endocrinologist consultant for more than a decade at King Faisal Specialist Hospital and Research Center, of which he has also been the former head of its Endocrinology Section. Dr. Raef's accomplishments in the field of endocrinology is nothing short of exemplary, which comes to no surprise why he is one of the most sought after speaker in the region in terms of endocrine disorders, including osteoporosis and cancer. His solid experience in both clinical research and practice has made him a vital contributor in the establishment of several training programs and clinical guidelines both regionally and spanning the Western hemisphere as well where he obtained his training.

Vitamin D and Metabolic Syndrome

Among the roster of micronutrient deficiencies, perhaps none has been studied in scrutinizing detail as much as vitamin D. The alarming global prevalence of hypovitaminosis D has shed light not only to vitamin D's expanding metabolic functions, but also to its contributions in compounding the already existing burden of chronic non-communicable diseases in the modern generation. In the local setting, we have previously documented and confirmed the high prevalence of both moderate to severe vitamin D deficiency in children, non-diabetic and diabetic adults. Moving forward to epidemiologic facts and cross-sectional findings, we have learned from existing literature that the multi-faceted physiological effects of vitamin D encompasses the components of metabolic syndrome (MetS), a cluster of cardiovascular risk factors that predisposes to increased propensity to cardiovascular diseases and diabetes mellitus type 2 (DMT₂). My presentation will focus on the existing theories and concepts behind the association of vitamin D and metabolic syndrome, and the promising cardioprotective effects of maintaining optimum vitamin D levels. I will also discuss an on-going local prospective study on vitamin D status maintenance whose preliminary results show marked improvements in the individual components of MetS secondary to appropriate sun exposure and inclusion of vitamin D rich foods.

Speaker: Dr. Nasser Al-Daghri

Dr. Nasser Al-Daghri is an associate professor in clinical biochemistry at King Saud University. He made his impact in the local scientific community by initially identifying the epidemic of concern consuming the Saudi public health. His interests in obesity-related complications paved way to the advancement of knowledge among several novel biomarkers of obesity using the Saudi cohort. His scientific contributions as an expert in the field of clinical biochemistry earned him various key roles in the strategic establishment of PMCO and King Saud University's thrust to realize the Custodian's vision of a knowledge-based economy.

Pathogenesis of osteoporosis

Osteoporosis is a disease of bone quantity and quality with subsequent increase in fracture's susceptibility. Over the last couple of decades, the explosion in researches enabled us to better understand various aspects of the disease. With the recent advances in the discoveries of the pathogenesis of osteoporosis, we- nowadays- not only able to predict the natural history of osteoporosis and how it behaves, but also to find various therapeutic modalities that gives clinicians free hand to treat the disease. A sound understanding of (remodeling) process was the cornerstone behind the discoveries of various drugs, our current menu of therapeutic options includes drugs that suppress osteoclasts (aniresorptives) or drugs which stimulate osteoblast. (Anabolics) both work to tip off the balance of the remodeling process positively. Classically, these actions are at the cellular level.

However more recently, researches discover innovative molecules that work at the molecular level of these cells, we - nowadays - start targeting the way these cells communicate with each other, and selectively suppress or enhance certain behavior of these cells instead of total inhibition or stimulation of the whole cell, with this we hope that we can reach to drugs that are more efficacious with less undesirable effects.

Speaker: Dr. Mohammed Al Shaker

Dr. Mohammed Al Shaker is the clinical director of the osteoporosis clinic in King Faisal Specialist and Research Center. He is a well respected orthopedic surgeon and an active member of the Saudi Osteoporosis Society. His interest in osteoporosis, together with his authored publications written in vernacular, earned him several scientific speaking engagements both locally and internationally. Furthermore, his contributions in the field earned him the authority to become one of the elite few to establish guidelines for osteoporosis treatment, which, as of this moment, remains the benchmark for osteoporosis management in the kingdom.

Osteoporosis Diagnosis and the Role of FRAX

Osteoporosis is the most common bone disease in humans but is also notoriously a silent one with complications in the form of bone fractures being its first presentation. Around the world, one woman in three and one man in five over the age of 50 is affected by osteoporotic fractures. This presentation will focus mainly on the diagnostic aspect of the disease, the risk factors and they are used in clinical practice as well as the new FRAX tool and its usefulness for identifying people at high risk of fractures so as to tailor treatment to them effectively.

Speaker: Dr. Mona Ali Fouda

Dr. Mona Fouda is an endocrinologist consultant at King Khalid University Hospital and King Abdulaziz University Hospital. Dr. Mona is also an associate professor at the Department of Medicine, King Saud University.

Speaker: Dr. Suphia Sherbeeni

Dr. Suphia Sherbeeni is an endocrinologist consultant and directress of the Specialized Diabetes and Endocrine Center at King Fahad Medical City. Dr. Sherbeeni is also the chairwoman of the Patient Health Education Sub-Committee at the same institution, which clearly reflects her passion to deliver holistic patient care. Aside from her current administrative position, Dr. Sherbeeni has also led and has been a part of several medical training programs in different tertiary hospitals across Riyadh.

Speaker: Prof. Mohammed Ardawi

Prof. Mohammed Ardawi is one of the leading figures in the Middle East in the field of osteoporosis. With more than 150 publications and still counting, there is no doubt of Prof. Ardawi's influence in making a big impact in the scientific community both regionally and internationally. He is also known for establishing world class research units in the western region of the kingdom. He is currently Professor of Clinical Biochemistry and Immunology and is the leading authority in Osteoporosis Research in King Abdulaziz University in Jeddah.

Acknowledgements

We thank our partners in making this lecture series possible.

