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PL1 DIABETES IN THE ARAB WORLD: SIZE OF THE PROBLEM AND PUBLIC HEALTH CONSEQUENCES
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Diabetes has become one of the most common chronic diseases in the Arab region. Prevalence rates of type 2 diabetes vary between 7% and 25% in the adult population. Type 2 diabetes in younger age groups is also becoming more common. People are presenting with Type 2 diabetes in their 20s and some even during adolescence and childhood. Factors that have contributed to this increasing prevalence of diabetes in the Arab region might be explained by the significant social and economic changes the region has experienced. Obesity is becoming more prevalent and people are becoming less active. Furthermore, life expectancy in the region has now increased, exceeding 65 years. These factors are central as a cause of the current epidemic of Type 2 diabetes. Diabetes in Arab countries accounts for a high mortality and morbidity rate as a result of its chronic complications. Type 2 diabetes is the leading cause of ischaemic heart disease, end-stage renal disease and is likely the leading cause of blindness in the Arab world. However, data on chronic complications of diabetes in the Arab world is scarce, concealing the real burden of diabetes in this part of the world. The prevalence of diabetes has clearly been influenced by the rapid social economic developments in the Arab region that influenced life changes, leading to a large increase in the prevalence of Type 2 diabetes. Such a pattern is best highlighted in Saudi Arabia over the recent time. In 1997, the prevalence of Type 2 diabetes in one of Riyadh's regions was 2.2% and in 1985 a report of the prevalence of Type 2 diabetes was 4.9% in urban Saudi Arabia. However, in 1997, the National Chronic Metabolic Survey reported the prevalence of Type 2 diabetes to be 12.3% and IgT to be 11.9%. Such a change is also true for most of the Arab region. Especially, as Arab communities share the same ethnic origin, diet, cultural habits and have undergone the same social and economic changes over recent times. However, the most dramatic change has occurred in the Gulf countries. Many studies highlighted the relationship between obesity and being associated with Type 2 diabetes. Obesity in Arab countries is a growing medical problem affecting a large number of people, including children. Urban populations and women are more susceptible to obesity. Studies in Saudi Arabia have shown around 50% of women aged between 40 and 50 years in urban areas are obese in contrast to only 24% of males in rural areas affected. One study has shown that the prevalence of obesity in Arab men in Palestine, as defined by a BMI over 30, to be around 40% and in the same study the prevalence of central obesity, as defined by waist:hip ratio to be even higher, present in 60% of men. The rate of obesity among Arabic diabetic populations is also very high with around 60% of diabetic subjects being defined as obese. Further studies demonstrated high rates of obesity in females with up to 80% of women found to be obese, as defined by BMI over 30. There are several reasons for the incidence of obesity in this population. A high consumption of carbohydrate rich foods is common. As the wealth in this society has increased, the majority of households now have help (maids) encouraging a sedentary lifestyle, especially for females. A significant link between obesity, physical inactivity and watching television for more than 15 hours a week, has been demonstrated in a cross sectional National Epidemiological Survey of Bahraini people. Of note, the same study demonstrated a link between obesity and education, with an increase in the prevalence of obesity as the level of education increased. This pattern may reflect a possible perception of obesity being a sign of affluence among Arab people. Coronary heart disease has emerged as the leading cause of mortality over a 20 year period of rapid social economic developments in the Arab region. Arab populations have similar traditional risks of developing diabetes and cardio-vascular disease. Diabetes is a costly disease. In most Arab countries, specialised Diabetes Centres are few and not easily accessible to the majority of patients. Diabetes nurse educators uncommon and podiatrists are almost unknown in most areas. Most countries, however, in the Arab world have a national diabetes programme, raising the awareness of diabetes, increasing research and greater practical collaboration, to diabetic complications, diabetes economics and its prevention. In some countries, the cost of caring for persons with diabetes is two to four times that of non-diabetic people in the healthcare system. While recognising the need to intervene actively and quickly, most countries are struggling to contain the rising tide of Type 2 diabetes, adding to the severe resource constraints. National frameworks are needed to address diabetes prevention and good health and quality of the life of individuals with diabetes as well as prevention of complications through effective care and education.
Plenary Lectures:

PL2. DIAGNOSIS AND MEDICAL TREATMENT OF PITUITARY TUMOURS
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Pituitary adenomas are common benign monoclonal tumours accounting for approximately 15% of intracranial tumours. The mean prevalence of clinically important pituitary adenoma is 250 per million of population with prolactinomas accounting for approximately 40% of cases. However, incidental pituitary adenomas had been described with increased frequency paralleling wider use of advanced diagnostic imaging modalities. The clinical manifestations are variable but include symptoms and signs of excessive hormone secretion by functioning adenoma, symptoms and signs of pituitary failure and central mass effect. Diagnostic work should include a) assessment for autonomous hormone hypersecretion using standard basal and dynamic test and applying accepted criteria b) assessment of pituitary reserve c) high quality imaging study generally MRI scan performed without and with Gadolinium contrast. Successful treatment of pituitary adenomas requires integrated interdisciplinary strategies since the primary treatment for each adenoma type vary. In patients with prolactinomas, medical therapy with dopamine agonists is highly effective in the majority of patients and considered the mainstay of therapy. For patient with other types of adenomas surgery remains the primary therapy of choice. However, medical treatment have either primary or adjuvant role in selected patients for control of hormone hypersecretion and tumour growth. In acromegaly, therapy with somatostatin receptor ligands (SRL) leads to tumour shrinkage and normalization of IGF-1 in 50% and 70% of patient respectively. Pegvisomant, a growth hormone receptor antagonist is used mainly in acromegalic patient with resistance to or intolerance of SRL and is effective in 90% of patients. In ACTH secreting adenomas, medical treatment is used preoperatively and in patients with surgical failure. Drugs that modulate ACTH release are effective in about 20% of patients whereas agents that inhibit steroidogenesis lead to normalization of cortisol secretion in 50-70% of patient. Whatever the choice of initial and adjuvant treatment, follow up of all patients with pituitary adenomas should be maintained indefinitely

PL3. STANDARDS OF MEDICAL CARE IN DIABETES.
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Diabetes is a chronic disease that is associated with acute and chronic complications leading to significant morbidity, mortality and increased economic costs. Patients with diabetes are at an increased risk for vascular disease, including microvascular complications (retinopathy, neuropathy, and nephropathy) and macrovascular complications (coronary heart disease, cerebrovascular disease and peripheral vascular disease). Diabetes care is complex and requires that many issues beyond glucose control be addressed including primary and secondary prevention of complications. There is a large body of evidence to show that improved glycaemic control reduces the risk of microvascular disease among patients with diabetes and is associated with lower risk of atherosclerosis and macrovascular disease. Besides glucose control, intensive management of blood pressure and cholesterol levels has been shown to improve health outcomes for patients with diabetes. Appropriate diabetes care requires a physician-coordinated team for continuing medical care and patient self-management education; this necessitates a multidisciplinary approach with a patient-centered strategy. Life style changes including regular exercise and medical nutrition therapy should be prescribed to all patients. In general, the aim in glucose control is as close to normal as possible (HbA1c < 6.5 %) without significant hypoglycemia while targets for blood pressure and low-density lipoprotein (LDL) cholesterol are < 130/80 mmHg and < 100 mg/dl (2.6 mmol/L) respectively. Angiotensin-converting enzyme inhibitors and statins have an important role in the care of many patients with diabetes. Other aspects of diabetes care include the use of aspirin in most patients, regular ophthalmologic, dental and foot examination, and influenza and pneumococcal vaccination.

State of the Art Lectures:
SA1. INSULIN PUMP THERAPY: THE EVIDENCE BASE AND CLINICAL PRACTICE.
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Insulin has been available for therapeutic use for more than 80 years and remains a powerful pharmacologic tool with nearly unlimited potential to lower plasma glucose levels in patients with diabetes. Required essentially by all patients with type 1 diabetes and many patients with type 2 diabetes, insulin is capable of restoring near-normoglycaemia which is the primary treatment goal to forestall the onset and progression of long-term complications. Attainment and maintenance of near-normal glycaemic control can be achieved with the use of insulin replacement strategies designed to simulate the physiologic, non-diabetic patterns of insulin secretion in response to 24-hour fasting and postprandial glucose profiles.

Normal insulin secretion consists of 2 major components: a basal secretion and a meal-related secretion. The role of continuous low-level basal insulin secretion into the portal circulation is to modulate the rate of overnight hepatic glucose production and glucose output during prolonged periods between meals. Meal-related insulin secretion controls the postprandial elevations of blood glucose levels. The primary objective of insulin therapy is to replace the prevailing lack of insulin (type 1 diabetes) or progressive deficit of insulin (type 2 diabetes) in a physiologically sound manner, mimicking normal insulin secretion patterns. Ideal insulin replacement therapy should be modeled with a combination of preparations capable of reproducing both the basal fasting and the prandial/postprandial normal secretion profile. Unfortunately no combination of available insulin preparations possesses the characteristics necessary to simulate normal insulin secretion. However, recent advances in insulin manufacturing technology have resulted in insulin analogues with properties that may significantly improve insulin replacement therapy.

Continuous subcutaneous insulin infusion (CSII) - [Insulin Pump Therapy] - via small programmable pump devices stands as a viable alternative to multiple daily injection [MDI] strategies. Infusion pumps can deliver short-acting insulin continuously at specific rates according to glucose patterns (basal component). Preprandial insulin doses at mealtime or in response to hyperglycemia are promptly delivered by the patient at the touch of a button according to blood glucose monitoring results, carbohydrate and caloric content of the upcoming meal, physical activity, and other factors (bolus dose or prandial component). This form of insulin replacement closely approximates the basal/bolus physiologic pattern of secretion. Compared with MDI regimens, continuous subcutaneous infusions have shown to improve glycaemic control, reduce the risk of hypoglycaemia, and allow more flexibility. The use of CSII strategy is clearly not suitable for all patients; it is expensive and requires a significant amount of patient education, motivation, and involvement to consistently monitor glycaemic status throughout the day to optimally manage insulin requirements. Insulin pump therapy has a promising future. Newer pump designs and the current availability of continuous glucose sensing will not only stimulate more pump use but will offer the hope for development of a closed-loop artificial pancreas in the form of either an external or an implantable sensor, feeding back to an external or implantable pump. Intensive diabetes management can be achieved in adults, adolescents, and children with use of CSII. Compared with MDI, CSII has better insulin pharmacokinetics, less variability in insulin absorption, and decreased risk of hypoglycaemia; it also offers patients greater flexibility in lifestyle. Careful adjustment of basal and bolus doses and close follow-up, including patient education, are vital to the success of CSII therapy.

SA2. DIABETIC EYE DISEASE: BEST PRACTICE IN SCREENING AND MANAGEMENT FOR 2007
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The incidence of diabetes worldwide is rising dramatically with the prevalence in developed countries estimated to increase from 6% to 8% by 2025. This presents a significant challenge to the general physician as well as the ophthalmologist both in terms of identifying and screening the large numbers of patients affected and then successfully identifying those who require referral for the management of sight-threatening disease. Screening for diabetic eye disease is cost-effective in that detection of retinopathy at a time when it is asymptomatic, followed by intervention, often leads to improved outcomes. The management of diabetic eye disease is rapidly evolving, not
only due to advancements in vitreoretinal techniques but also extensive research into pharmacological methods attempting to either prevent the onset or halt the progression of diabetic retinopathy. Evidence based treatment of diabetic eye disease includes the issues. Firstly, Reducing the progression of retinopathy. A number of large randomized controlled clinical trials have proven the benefit of good glycaemic, and blood pressure control as well as laser photocoagulation in slowing down the deterioration of retinopathy and maculopathy. The control of lipids has been shown in observational studies to decrease the incidence of exudative maculopathy. Secondly, Treatment of proliferative diabetic retinopathy After 20 years 60% of Type 1 diabetics and 20-30% of Type 2 might be expected to have developed proliferative retinopathy. The Diabetic Retinopathy Study (DRS) showed that panretinal photocoagulation (PRP) reduced the risk of severe visual loss by 50% in treated eyes and this remains the main treatment for many patients with proliferative disease. Thirdly, treatment of diabetic maculopathy: After 15 years it is estimated that 20% of Type 1 diabetics and 25% Type 2 diabetics taking insulin and 14% Type 2 diabetics onto taking insulin will have maculopathy. This can be classified into focal or diffuse types, where focal maculopathy is described as well circumscribed areas of retinal oedema, with or without exudates, often surrounding leaking microaneurysms. Maculopathy may also be classified into ischaemic, non-ischaemic or mixed types. Fluorescien angiography is extremely helpful in guiding laser treatment and documenting ischaemia especially when the oedema is diffuse

SA3. SUBCLINICAL THYROID DISEASE
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Subclinical thyroid disease is a common clinical problem and is defined as an abnormal serum thyroid-stimulating hormone (TSH) level (reference range: 0.45-4.5 uU/ml) and free thyroxine and triiodothyronine (FT4, FT3) levels within their reference ranges. There are many controversial issues regarding screening, evaluation, and management of subclinical thyroid disease. The prevalence of subclinical hypothyroidism in general population is 4-10% and up to 20%-26% in women older than 60 years and 5% in women of reproductive age. Causes of subclinical hypothyroidism include chronic autoimmune thyroid disease, radioactive iodine therapy, thyroidectomy, and antithyroid drugs. In most cases there are no systemic manifestations but some individuals may have nonspecific symptoms such as fatigue and weight gain, as well as depressive feelings and mild cognitive disturbances. Peripheral tissues function tests frequently indicate a lowered degree of thyroid hormone deficiency such as cardiac dysfunction and an increase in serum LDL-cholesterol. Although population screening for subclinical hypothyroidism has not been recommended unanimously because of insufficient evidence to support population based screening, expert panels of most professional societies have endorsed routine screening of men and women beginning at age 35 years and every 5 years, pregnant women, and individuals older than 60 years. There is good evidence that subclinical hypothyroidism is associated with progression to overt disease, particularly when thyroid antibodies are present. There is no general agreement on treatment of subclinical hypothyroidism. Many authorities recommend treatment of cases with a TSH level > 10 uU/ml and against treatment when TSH is between 4.5–10 uU/ml because of insufficient evidence of benefit. There is only fair evidence to support an association between subclinical hypothyroidism and adverse outcome in pregnancy. However most authorities recommend screening serum TSH levels in patients who are pregnant or who are planning to become pregnant and thyroxine treatment during pregnancy to maintain serum TSH levels within the normal reference range. The prevalence of subclinical hyperthyroidism is 2% in general population and is caused by Graves disease in the majority of cases. Other causes include multinodular goiter, autonomous toxic nodules, or exogenous levothyroxine. Subclinical hyperthyroidism is associated with atrial fibrillation, reduced bone density, cardiac dysfunction, and progression to overt hyperthyroidism in patients with known thyroid disease. There is little evidence that early treatment of cases with complete suppression of TSH (< 0.10 uU/ml) alters the clinical course of the disease, but no sufficient evidence to support treatment when TSH is partially suppressed (0.10-0.45 uU/ml), instead they should be monitored and observed.

Medal/Memorial/Special Lectures:
Prevalence data are based on a multistage cluster sample from Benghazi area using 75 g oral glucose tolerance test. The sample included 314 men and 554 women. The overall prevalence of IGT was 8.5% (95% confidence interval (CI) 5.8-11.3) (men 8.6% 95% CI 7.7-9.6, women 8.5%95% CI 5.0 11.9), and that of diabetes was 14.1% (95% CI 10.9-17.1) (men: 16.3% 95% CI 14.5-18.3; women: 13.0% 95% CI 10.0-16.1). Diabetes was present in 19.4% (95% CI 15.4-20.5) (men 22.7% 95% CI 20.2-25.4, women 17.6% 95% CI 14.1-19.1) in 30-64 years age range. Prevalence of diabetes was slightly higher in urban than in rural areas (14.5% vs. 13.5%). The prevalence of newly diagnosed diabetes in urban and rural areas was 3.6% and 7.3% respectively and that of known diabetes were 10.9% and 6.3% respectively. Associated risk factors with diabetes and IGT were age, family history of diabetes, hypertension, BMI, WHR and serum cholesterol. Incidence data of Type 2 diabetes are based on analysis of files during the period 1981 to 1990. A total of 8922 NDDM cases (males 4081 females 4841) were registered during the study period. The overall incidence rate of NIDDM cases was 0.19 percent and was significantly higher in females (0.21%) than in males (0.17%) (P<0.01). Incidence rates increased with each higher age group and peaked in 50-54 years age group. Among Type 2 patients the prevalence of hypertension was 22.5% and the prevalence of overweight was 59.4%. Prevalence of complications among 945 Type 2 patients were neuropathy 47.1%, retinopathy 30.5%, nephropathy 25.8%, ischemic heart disease 14.9%, peripheral vascular disease 15.2%, cataract 13.1% diabetic foot 1.8%.

In conclusion diabetes in Libya is emerging as an important public health challenge to health care providers for primary and secondary prevention of the disease. About 22.6% of Libyans above 20 years of age are glucose intolerant, increasing urbanization and life expectancy of Libyans are expected to lead to increase of the number of people with glucose intolerance. A Libyan national diabetes programme existed since 1984. Diagnostic facilities, insulin and oral hypoglycaemic drugs are free of charge. However there are many deficiencies in the Libyan national diabetes programme to be rectified. Health planners in most of the developing countries are largely unaware of the magnitude of the problem of non-communicable disease and diabetes ranks low in their list of priorities.

Diabetic neuropathy (DN) is not a single entity but rather a number of syndromes affecting both peripheral and autonomic nervous systems. The pain of DN is a common cause of morbidity and death among patients with diabetes, generating a huge economic and social burden. Neurological complications occur equally in T1DM and T2DM being observed in approximately 60% of subjects, although symptomatic DN is seen in about 20 % of patients. Distal symmetrical neuropathy is the commonest form of DN, accounting for 75% of cases. Asymmetrical neuropathies may involve cranial nerves, thoracic or limb nerves; are of acute onset resulting from ischaemic infarction of vasa nervosa. Asymmetric neuropathies in diabetic patients should be investigated for entrapment neuropathy. Diabetic amyotrophy, initially considered to be a sequelae of metabolic changes, and later ischaemia, is now attributed to immunological changes. In addition to chronic hyperglycaemia, the incidence of neuropathy is associated with potentially modifiable cardiovascular risk factors, including a raised triglyceride level, body-mass index, smoking, and hypertension. Early diagnosis of distal symmetric sensorimotor polyneuropathy, may decrease patient morbidity by allowing for potential therapeutic interventions. The Diabetes Control and Complications Trial (DCCT) reported a 60 percent reduction in neuropathy in the intensively treated groups after five years. Therefore, Good glycaemic control is the first priority for both prevention and management of DN. However, even with good glycaemic control, up to 20% of patients will develop DN. Accordingly, early recognition and assessment are critical to optimize management. The choice of therapeutic agents in treating DN are limited and different agents may be appropriate for different patients, and patients may try multiple agents before finding one that works for them. Combination therapies, particularly those that combine centrally acting
agents with peripherally acting agents, may provide increased pain relief but remain largely unstudied.

ML3. Dr. Makkram Addawi Memorial Lecture: EVIDENCE-BASED MANAGEMENT OF THYROID NODULES
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Thyroid nodules are common problems. The clinical importance of these nodules rests with the need to exclude thyroid cancer that occur in 5 – 10 % of all thyroid nodules, depending on age, gender, radiation exposure history and family history of thyroid cancer. The risk of malignancy for thyroid nodules is higher in younger age groups, as well as in patients older than the age of 60. Male to female ratio for thyroid nodule to be malignant is 5:1 respectively. Also the risk of malignancy is higher among patients with solid and cold nodule versus cystic, mixed and hot one. There are continuous controversies regarding the management of thyroid nodules. Since the introduction of fine needle aspiration biopsy (FNAB) as a procedure for the investigation of thyroid nodules in the 1970’s, lesser number of patients with thyroid nodules has been referred for surgery. At the same time more thyroid nodules have been discovered by the introduction of Ultrasonography, now more cases may undergo FNAB.

There is no sharp demarcation or line that can separate between which nodules is clearly malignant or benign. The suspicious cytology on FNAB of thyroid nodule represents a challenging dilemma for the Endocrinologist. In this presentation we’ll try to shed some light on the management of thyroid nodules in general, as well as the proper and most widely acceptable approach and recommendation for managing patients with thyroid carcinoma. Keeping in mind there still will be some minor variation from one school of thought to another. The extent of surgery, the role of post operative radioactive iodine ablation therapy, as well as suppressive dose of thyroid hormone replacement will also be discussed under the same topic.

ML4. The LSDE Inaugural Lecture: METABOLIC COMPLICATIONS OF HIV INFECTION ON ANTI-RETROVIRAL TREATMENT.
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Highly active antiretroviral therapy (HAART) has had a significant impact on the natural history of human immunodeficiency virus (HIV) infection, leading to a remarkable decrease in its morbidity and mortality, but is frequently associated with clinical and metabolic complications. Metabolic complications of HIV therapy have emerged as a vexing problem for individuals living with HIV infection and their clinicians. These adverse effects threaten health and quality of life as well as adherence to HIV treatment. Gradually we detect more and more anthropometric, metabolic and coagulation changes, closely resembling changes seen in the metabolic syndrome (SIR, syndrome of insulin resistance), well known from cardiology and internal medicine-dyslipoproteinaemia, insulin resistance, abdominal obesity. A combination of these disorders is clinically significant due to their role in the development of atherosclerosis and their by no means negligible involvement in the onset of ischaemic heart disease. In view of the much lower mean age of HIV-positive subjects the earlier mentioned complications should be expected in much lower age categories than with HIV-negative individuals. Assessment of these complications should be done at least every year. Treatment options concern antiretroviral therapy with the search for the least toxic drug (but with equal antiviral efficacy), symptomatic treatment (statin, fibrates, thiazolidinediones, metformin) and lifestyle modifications (first of all, stopping cigarette smoking!). Collaboration between HIV specialists and other health professionals (i.e. endocrinologists) will be required to accomplish these goals.

Abstracts of Symposia:

Symposium 1: REDUCING THE CARDIOVASCULAR RISK IN DIABETES

S1.1 HYPERTENSION IN DIABETES: DRUGS AND TARGETS
Hypertension is a major and modifiable risk factor for macrovascular and microvascular complications. It affects ~20-60% of people with diabetes. Data from well designed randomized clinical trials have demonstrated the effectiveness of aggressive treatment of hypertension in reducing diabetes complications. All patients with diabetes should have routine blood pressure measurements at each scheduled diabetes follow-up visit. Aggressive blood pressure control should be attempted in all diabetic patients and guidelines recommend a target blood pressure <130/80 mmHg for people with diabetes. American Diabetes Association recommends therapeutic lifestyle change (TLC) for a maximum of 3 months if blood pressure is 130–139 mmHg systolic or 80–89 mmHg diastolic. Medication should be initiated after 3 months if TLC does not decrease the blood pressure. If average blood pressure is ≥140/90 mmHg or if there is albuminuria or target organ damage, simultaneous pharmacological and lifestyle modification therapy should be initiated. Hypertension in diabetic subjects is usually difficult to treat and most patients will require more than one medication to achieve adequate hypertension control. Because large number of studies in patients with diabetes demonstrating improvement in a range of outcomes, including progression of nephropathy, cardiovascular events, and mortality, the first-line therapy will likely be an angiotensin-converting enzyme (ACE) inhibitor or angiotensin II receptor blockers (ARBs). Other strategies include the use of diuretics or β-blockers. Non-dihydropyridines calcium channel blockers (NDCCBs) can be used when ACE inhibitors, ARBs, or β-blockers are not tolerated or are contraindicated or when a second or third drug is required. Treatment decisions should be individualized based on the clinical characteristics of the patient, including comorbidities, tolerability, personal preference, and cost.

S1.2 LIPID LOWERING IN DIABETES
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For far too long, diabetologists have been guilty of regarding diabetes mellitus as simply a disorder of carbohydrate metabolism, and insulin as involved only in maintaining euglycemia. These concepts were never sustainable. Diabetic ketoacidosis, after all, is the consequence of abnormal fatty acid metabolism. Even so, most physicians think of coronary heart disease (CHD) in diabetes as being the consequence of hyperglycemia. There is a good reason to go beyond that view. It is well documented, but not widely appreciated, that the incidence of microvascular disease differs little in diabetes around the world. By contrast, the incidence of macrovascular disease differs considerably, being much higher in societies in which a high proportion of energy comes from dietary fat rather than carbohydrates. Differences in prevalence of atherogenic dyslipidemias most likely explain these marked differences in coronary risk. Diabetes mellitus is considered a CHD equivalent and, both CARE trial and Heart Protection Study found significant improvement in outcomes with statin therapy even at LDL-cholesterol values below 100 mg/dL (2.6 mmol/l). The CARDS study found similar benefits of statin therapy in patients with an LDL-cholesterol above and below 120 mg/dL (3.1 mmol/L). Thus the ATP-III goal LDL-cholesterol is similar to that in patients with CHD: less than 100 mg/dL (2.6 mmol/l), and perhaps more aggressive target LDL-cholesterol goals of 75 to 80 mg/dL (1.9 to 2.1 mmol/l) may be appropriate in high risk groups. In this lecture, the following objectives will be addressed; epidemiology of hyperlipidemia & CHD, pathogenesis of atherosclerotic plaque, diabetic dyslipidemia and NCEP ATP III recommendations.

S1.3 DIABETES AND STROKE
Ibrahim M. TREKI, Endocrinology and Metabolism Clinic, South Walkerville Medical Center, 328-2224 Walker Road, Windsor, ON N8W 3P6, Canada. Email: Ibrahimtreki@yahoo.ca

Stroke has been defined as major outcome in uncontrolled Diabetic patients. This has been shown in many studies. Stroke risk is about 12% in patients with A1C 8% which is 1% elevation from high normal A1C. This number get doubled with A1C 9%. High plasma blood sugars have been associated with poor outcomes after acute stroke. Hyperglycemia in non diabetic patients has been also associated with poor outcome and increased mortality. Interestingly, this risk is more than diabetic patients. This was mainly in ischemic stroke patients. Uncontrolled Admission blood sugar has been associated with poor neurological outcome-comes, an increase in the size of brain infarction
and increased stay in hospital. Even in patients who received thrombolysis with recombinant tissue Plasminogen Activator (rt-PA) for acute ischemic strokes, high admission blood sugar are associated with significantly lower odds for a desirable clinical outcomes and significantly higher odds for symptomatic ICH, regardless of rt-PA treatment. Hypertension, Microalbuminuria and hyperlipidemia are independent risk factors for stroke. They play a role also in diabetic patients. Controlling Blood sugar to a range less than 7mmol/l (126mg/dl) has been shown important in improving neurological outcomes. Insulin has been used and shown to decrease complications as well as have hypotensive effects on both systolic and diastolic Blood pressure acutely. Tighten blood sugar is important factor in improvising outcomes in stroke patients. Treatment with high dose with satins has about 26 % reduction in recurrence of stroke or TIA (SPARCL study) even in normal cholesterol patients. Treating patients with ACE inhibitors has been associated with 32 % risk reduction.

S1.4 HYPERBARIC OXYGEN THERAPY IN DIABETIC FOOT CARE
Issam M HAJJAJI, National Centre for Diabetes & Endocrinology, Tripoli, Libya. E-mail: issam@dr.com

No abstract provided..

Symposium 2: OBESITY IN ADULTS

S2.1 MEDICAL COMPLICATIONS OF OBESITY IN ADULTS
Salem A. BESHYAH and Ibrahim H. SHERIF, Department of Medicine, Al-Fateh University, Tripoli, Libya and Division of Endocrinology, Department of Medicine, Sheikh Khalifa Medical City, Abu Dhabi, United Arab Emirates. Beshyah@yahoo.com

The prevalence of obesity is increasing worldwide at an alarming rate in both developing and developed countries. This has been predictably attributed to the environmental and behavioral changes brought about by economic development and modernization. Currently more than 1 billion adults are overweight - and at least 300 million of them are clinically obese. Childhood obesity is already epidemic in some areas and on the rise in others. Obesity accounts for 2-6% of total health care costs in several developed countries. The true costs are undoubtedly much greater as not all obesity-related conditions are included in the calculations.

Overweight and obesity lead to adverse metabolic effects on blood pressure, lipids and insulin resistance. This has been confirmed despite the use of different BMI cut-offs points. However, the presence of many medical conditions involved in the development of obesity may confuse the effects of obesity itself. Debilitating health problems associated with obesity include respiratory difficulties, chronic musculoskeletal problems, skin problems and infertility. The more life-threatening problems fall into four main areas: cardiovascular problems; conditions associated with insulin resistance such as type 2 diabetes (T2DM); certain types of cancers, especially the hormonally related and large-bowel cancers; and gallbladder disease. The likelihood of developing T2DM and hypertension rises steeply with increasing body weight and fatness. Confined to older adults for most of the 20th century, this disease now affects obese children even before puberty. Over 85% of people with diabetes are type 2, and of these, 90% are obese or overweight. This is increasingly becoming a developing world problem. Raised body mass index (BMI) also increases the risks of cancer of the breast, colon, prostate, endometrium, kidney and gallbladder. Chronic overweight and obesity contribute significantly to osteoarthritis, a major cause of disability in adults. Although obesity should be considered a disease in its own right, it is also one of the key risk factors for other chronic diseases together with smoking, high blood pressure and high blood cholesterol.

S2.2 THERAPEUTIC LIFE STYLE MODIFICATION FOR OBESITY.
Soad BOSSERI, Diabetes and Endocrinology Department, Suri Seri Begawan Hospital, Kuala Belait,, Brunei Darussalam. e-mail s_bosseri@yahoo.com

Lifestyle interventions including diet and moderate physical activity can reduce the risk of developing type 2 diabetes by as much as 60% and also resulted in decrease in cholesterol and blood pressure, the gain from lifestyle modification is greater than any individual therapy.
Recognition of the importance of lifestyle intervention should drive allocation of resources required for care and self management training, implementation of which demands knowledgeable and competent personnel. The greatest health gain for a country usually comes from changing the behavior of the average family rather than focusing on high risk group. Regular physical activity is important for everyone. It doesn’t significantly affect rate of weight loss in the early phases but it plays an important role in weight maintenance, the maintenance of weight loss is more challenging than short term weight loss. Effective exercise doesn’t have to be done in a single block of time nor does it always have to be formally regulated in any way, but could be incorporated in the activity of daily living. Play facilities for children help strengthen long term attitude to physical activities. Nutrition changes are often difficult to achieve. A key component of the success of its delivery is sensitivity to the cultural background and identifying the availability of healthy food choices. The importance of healthy food and drink should be taught from a young age and strict control need to be established with regard to the availability of food and drinks for school children. The ideal diet should provide appropriate energy and nutrients for optimal growth, development and health, while helping to maintain or achieve ideal body weight. Facilities and programmes to promote healthy lifestyle will only have impact if the users are motivated and willing to change their behaviour.

S2.3 USE OF ANTI-OBESITY DRUGS WITH SPECIAL REFERENCE TO DIABETES.
Amna Ali SALHIN, Diabetes and Glandular Disease Clinic, San Antonio, Texas, USA. E-mail: asalhin@hotmail.com

Obesity continues to increase in prevalence, causing an increasing number of health problems worldwide. Obesity plays a central role in constellation of morbidities including cardiovascular diseases, diabetes and other metabolic disorders. Lifestyle changes are the primary approach to weight loss, but in reality it is hard to achieve and maintain. Anti-obesity drugs can be useful adjuncts to diet and exercise in the treatment of obese individuals with type 2 diabetes. Different classes of anti-obesity drugs are available and others are still in clinical trials. Rimonabant is the first selective cannabinoid-1(CB1) receptor blocker studied for the treatment of obesity in type 2 diabetes and dyslipidemia. The Endocannabinoid system plays an important role in adipose tissue, glucose metabolism and insulin resistance. It consists of endocannabinoid signaling molecules which activate CB1 receptor in the brain (influences feeding behavior and energy balance) and peripherally (stimulates adipogenesis and inhibits adiponectin). RIO (Rimonabant in Obesity) trials showed subjects taking rimonabant 20mg daily had significant improvement in weight, waist circumference, hemoglobin A1C and lipids. New diabetes drugs that are now available and have shown to cause weight loss include Pramlintide, a synthetic analog of human Amylin (a peptide hormone produced by pancreatic beta cells in conjunction with insulin). It impacts glucose control by slowing gastric emptying, regulation of postprandial glucagon and reduction of food intake, and Exenatide, a synthetic peptide that is a Glucagon -Like Peptide-1(GLP-1) receptor agonist causes dose dependent weight loss in type2 diabetics not controlled on oral agents. Orlistat is a drug that inhibits pancreatic lipases, in diabetic patients orlistat has shown to cause weight loss and a decrease in A1C. Obese patients with diabetes may also benefit from Sibutramine, which reduces food intake and causes early satiety by blocking norepinephrine and serotonin reuptake into nerve terminals. Side effects and contraindications to these drugs do exist; therefore treatment should be tailored to patients’ individual needs.

S2.4 SURGERY FOR SEVERELY MORBID OBESITY: AN OVERVIEW FOR PHYSICIANS.
Mr. Rajab KERWAT, Department of Surgery, Queen Mary’s Sidcup NHS Trust Hospital, Frognal Avenue Kent, DA14 6LT and Guys & St Thomas Hospital Foundation Trust, London, St Thomas’ Hospital, Lambeth Palace Road, London SE1 7EH Mobile phone: 00447876680428 Fax: 00441689 873223 E-Mail: Kerwatrm@hotmail.com

General and overview of the background lead to resurgence of the surgical management of morbid obesity including epidemiological view of the problem. The current British guidelines are discussed which is in general a reflection of western approach to the management. The rational and the advantages of surgery are highlighted and discussed including patient’s selection, pathway and multidisciplinary approach. A comparison is put between the two common surgical
interventions, including the pros & cons of each. The presentation will aim to inform the audience about this important aspect of care for this increasingly common global problem.

**Symposium 3. DIABETES AND ENDOCRINOLOGY IN CHILDREN AND ADOLESCENTS:**

**S3.1 MAGNITUDE OF CHILDHOOD DIABETES IN TRIPOLI MEDICAL CENTER, TRIPOLI, LIBYA (1996-2006)**

Suliman ABUSREWIL, Nadia ELGAZIR, Mohamed KARESTA, A. ELGERBI, Ibilsam ELKHAZEMI, Hend ELKHAZEMI, Ibilsam HADEED, Haima TURKI, Mohamed HWEIDI, Souad MADDAH. Department of Paediatric Endocrinology, Tripoli, Medical Centre, Tripoli, Libya. dr_abusrewil@yahoo.co.uk

Childhood Diabetes is a common disease and is increasing, with wide geographical distribution. This study involves a large cohort of 2413 diabetic children and adolescents being diagnosed and followed at Diabetic Clinic, Department of Pediatric Endocrinology, Tripoli Medical Center (TMC). Of these, 1446 patients were diagnosed at Tripoli Medical Center between September 1996 and December 2006. The remaining patients were diagnosed at Tripoli Diabetic Center before TMC was opened. In this study, we describe various parameters such as, age, sex, weight, height, thyroid function at diagnosis and yearly after, residence, nationality, family history of DM, school performance, HbA1c at the time of diagnosis, screening for hepatitis and HIV, and screening for other autoimmune diseases, any associated illness, and the occurrence of complications.

Data analysis showed equal sex distribution. Just over half of our patients were from Tripoli District (51%) and most of them were Libyan nationals (97.2%). 29% of them presented in diabetic ketosis and most patient were admitted at the time of the diagnosis for initial stabilization. 16.4% had family history of type 1 diabetes and 33.4% had family history of type 2 diabetes. 5% of the patients had associated autoimmune conditions. 0.7% of patients were found to be positive for hepatitis. 50% of children were treated by intensive insulin regimen. 6% had diabetic microvascular complications. The task of managing childhood diabetes is good metabolic control, preventing morbidity and mortality and assuring good quality of life.

**S3.2 MODERN MANAGEMENT OF TYPE 1 DIABETES IN CHILDREN: AN OVERVIEW**

Ahmed Sasi SHAMEKH, Princess Royal University Hospital, Farnborough, UK.

Type 1 diabetes mellitus (T1DM), one of the most common chronic diseases in childhood, is caused by insulin deficiency resulting from the destruction of insulin-producing pancreatic beta cells. In the USA there are 125,000 children under age of 19 year with diabetes. In UK there are at least 20,000 children under age of 16 year with diabetes. There is slow but steady increase in the in the number of cases diagnosed per year in most countries especially in the younger age group. There are unique challenges in caring for children and adolescents with diabetes that differentiate children and young people from adult care. These include the obvious differences in the size of the patients, developmental issues such as the unpredictability of a toddler’s dietary intake and activity level, and medical issues such as the increased risk of hypoglycaemia and diabetic ketoacidosis. Because of these considerations, the management of a child with type 1 diabetes must take into account the age and developmental maturity of the child. Although most children with type 1 diabetes present with the classic signs and symptoms of hyperglycaemia without accompanying acidosis, a significant number present with diabetic ketoacidosis. Children and young people with T1DM should be offered continuous care by paediatric diabetes team to optimise their glycaemic control and reduce the risk of complications.

**S4. MOLECULAR BASIS AND CLINICAL IMPLICATIONS IN GENDER DIFFERENTIATION DISORDERS**

Asma Deeb, Imperial College London Diabetes Centre, Abu Dhabi, United Arab Emirates. asmadeeb@yahoo.co.uk

Sex differentiation disorders are a wide spectrum of diseases in which genetic and environmental factors interplay. Advances in Genetics led a revolution in understanding many disease processes and initiated discovery of new therapies for various genetic and endocrine disorders. The genotype-phenotype correlation phenomenon operates in some of these disorders but not in others. This correlation concept is a useful diagnostic measure and is also a powerful tool for genetic counselling. Clinical conditions resulting from defects in various steps of sex determination
and differentiation are extensive and common forms of these conditions will be discussed. Congenital adrenal hyperplasia (CAH) is a family of disorders characterized by enzyme defects in the steroidogenic pathway. Deficiency of 21 hydroxylase enzyme is its commonest form. It results from deletion or mutations in the active gene (CYP21) located in chromosome 6p. In CAH, genotype and phenotype correlate well with a clear relationship between clinical disease severity and the type of CYP1 mutation. In the contrary, androgen insensitivity syndrome (AIS), which is a disorder caused by mutation in the androgen receptor, lacks such a correlation. Classical presentation of some of the commonest intersex disorders will be presented and an overview of the underlying molecular mechanisms will be discussed. The genotype-phenotype correlation of various disorders will be highlighted.

S3.5 SURGICAL ASPECTS OF AMBIGUOUS GENITALIA: REFLECTIONS ON THE TRIPOLI MEDICAL CENTRE EXPERIENCE
Bashir GHARMOOL. Departments of Paediatric Surgery, Tripoli Medical Center, Tripoli, Libya. E-mail: dbmgharmool@yahoo.com

When a baby is born one of the first questions often asked is “is it a boy or a girl?” the answer is not always simple. Developmental disorders of sexual differentiation may cause ambiguity of external and internal genitalia of the newborn. This has a great impact on the parents. First of all they have to cope with the fact that their child has a disorder and is not as healthy as they hoped for. Secondly, they have to deal with the uncertainty of the gender. Usually parents have heard of these congenital anomalies, which make them feel uncertain. Their sadness, disbelief and uncertainty may make it difficult to deal properly with the situation.

During the last ten years, a multidisciplinary team working in Tripoli Medical Center has managed many children born with ambiguous genitalia this team consists of the following medical specialists: endocrinology, surgery and urology. In this presentation, we will reflect on our experience with the surgical treatment of 20 children born with genital developmental disorders over the last ten years. These patients are classified into five categories: femal pseudohermaphrodite “ovarian tissue only”, male pseudohermaphrodite “testicular tissue only”, true hermaphrodite “both ovarian and testicular tissue present”, mixed gonadal dysgenesis “testicular tissue and streak gonad” and gonadal dysgenesis “two streak gonads”.

Four surgical procedures play an important role in the treatment of children with ambiguous genitalia: clitoral reduction/recession, Vaginoplasty and gonadectomy, and this presentation will in particular focus on the results and the controversial subject of timing of feminizing genitoplasty (CAH). Our short- term results in girls born with ambiguous genitalia suggest that for most patients, the results of surgery to construct female genitalia are good. However, long-term surgical results and results of psychosexual functioning of these patients are not yet available and further studies focusing on long-term psychosexual outcomes are needed.

Abstracts of Clinical Workshops:
WS1 Management of type 2 diabetes in 2007
WS1.1 ORAL ANTI-DIABETIC DRUGS: WHICH ONE FOR WHOM?
Ahmed SWALEM, Department of Medicine, Garyounis University. Benghazi, Libya. E-mail: aswalem51@yahoo.com

Type 2 diabetes (T2D) is a multifunctional metabolic disease characterized by insulin resistance and insulin deficiency. The former is represented by decreased insulin-stimulated glucose uptake in skeletal muscle, augmented endogenous glucose production mainly by the liver, and enhanced lipolytic activity in adipose tissue. The latter is due to functional defect in β-cell function and progressive loss of β-cell mass. These two defects are intimately linked. Understanding the defects is important because addressing them forms the cornerstone of therapy of this disease. When lifestyle modification (LSM) and diet therapy fail to achieve the desired glycemic goals, the conventional approach is to begin with an oral anti-hyperglycemic agent. There are five classes of anti-hyperglycemic agents. These classes improve glucose metabolism by different mechanisms
pharmacotherapy is necessary to achieve and maintain adequate glycaemic control. The United Kingdom Prospective Diabetes Study [UKPDS] demonstrated that the percentage of subjects who is characterized by progressive decline in beta cell function over time means that additional beta-cell function occurring as subjects transition to diabetes. The natural history of type 2 diabetes normal glucose tolerance (NGT) to impaired glucose tolerance (IGT), with further decreases in diabetic individuals and is treated only with insulin replacement. Longitudinal studies investigating the natural history of type 2 diabetes have shown that beta-cell dysfunction begins many years before the disease is diagnosed and is progressive, declining as subjects transition from normal glucose tolerance (NGT) to impaired glucose tolerance (IGT), with further decreases in beta-cell function occurring as subjects transition to diabetes. The natural history of type 2 diabetes is characterized by progressive decline in beta cell function over time means that additional pharmacotherapy is necessary to achieve and maintain adequate glycaemic control. The United Kingdom Prospective Diabetes Study [UKPDS] demonstrated that the percentage of subjects who
maintained target glycaemic levels with 1 drug decreased from 50% at 3 years to less than 25% after 9 years of follow-up and that time, however, combination oral agent therapy also fails, and insulin therapy is needed for many patients to maintain glycaemic control. Initiation of insulin therapy will require more extensive patient education in regard to not only insulin use, but also the potential risk for hypoglycemia and how to manage it. Patients also need to know how to adjust insulin doses during illness. Patients need close follow-up to monitor progress and adjust insulin doses. Type 2 diabetes is a progressive disease characterized by declining beta-cell function. Healthcare providers need to recognize that over time many patients with type 2 diabetes will require insulin to achieve therapeutic targets. Studies have shown that tight glucose control will prevent the onset or progression of the chronic complications of diabetes. Simple regimens for the initiation and intensification of insulin therapy will allow more type 2 diabetes individuals to be treated successfully with insulin to achieve appropriate goals and improve the long-term outcomes for these people.

Workshop 2: DIABETES IN CRISIS

WS2.1 MANAGEMENT OF DIABETES IN THE HOSPITALIZED PATIENT PARTICULARLY IN THE PERIOPERATIVE PERIOD.
Amna SALHIN, Diabetes and Glandular Disease Clinic, San Antonio, Texas, USA. E-Mail asalhin@hotmail.com

Hyperglycaemia is associated with adverse outcomes for hospitalized patients with and without diabetes. The number of hospital discharge forms with diabetes listed as a diagnosis increased more than 50% in the United States during the 1990s. By 2002, diabetes accounted for more than 4.9 million hospitalizations, costing an estimated 40 billion dollars. With emerging evidence that hyperglycaemia is an independent risk factor for adverse outcomes and good glycaemic control improves mortality, critical care outcomes, and length of hospital stay, yet in many hospitals, treatment of hyperglycaemia remains suboptimal which has led medical organizations including American Diabetes Association (ADA) and American Association of Clinical Endocrinologist (AACE) to issue consensus guidelines for hyperglycaemia control in hospitalized patients. In non-critical care setting, ADA guideline for pre-prandial glucose level is 90-130mg/dl and a maximum of <180mg/dl. Insulin is the primary treatment of hyperglycaemia; oral agents have significant limitations and are often contraindicated, sliding scale insulin should not be used as monotherapy but as a correction-dose in addition to basal and prandial insulin. Surgery in diabetics is associated with increased risk of infection, impaired wound healing, increased hospital stay and hospital mortality, glucose level and A1C in the preoperative period can be a predictive of postoperative complications. All diabetic patients undergoing surgery should have comprehensive preoperative evaluation, risk assessment of hyper/hypoglycaemia and should receive instructions regarding insulin dose adjustments. Special conditions where continuous intravenous insulin infusion is required include complex surgeries (cardiovascular, neurosurgical, organ transplant), prolonged NPO status after abdominal surgeries, total parenteral nutrition (TPN) and high dose glucocorticoid therapy. Glucose level should be monitored using point-of-care (POC). Inpatient hyperglycaemia is recognized as a patient safety issue therefore, implementing safe, effective systems for improving glycaemic control require multidisciplinary team approach; discharge planning should be initiated well in advance to ensure continuity of care and appropriate plans for follow-up.

WS2.2 MANAGEMENT OF DIABETES IN THE INTENSIVE CARE SETTINGS.
Abdulfattah Lakhdar, Department of Diabetes & Endocrinology, Whipps Cross University Hospital London, UK. abdullakhdar@hotmail.com

A large single centre trial of post-operative surgical diabetic patients showed significant improvement in survival when continuous infusion of Insulin was used to Maintain glucose between 80 and 110 mg/dl (4.4 – 6.1 mmol/l). Patients with severe Sepsis were studied supporting the role of glycaemic control using continuous Infusion of insulin and glucose in such setting. Following initial stabilisation of patients, blood glucose maintained at <150 mg/dl (8.3 mmol/l). The best results were obtained when glucose was maintained between 80 and 110 mg/dl (4.4 and 6.1 mmol/l). Achieving a goal of <150 mg/dl (8.3 mmol/l) also improved outcome when compared to higher levels but with reduced risk of hypoglycaemia. Glycaemic target at the intensive care unit is 110
mg/dl (6.1 mmol/l). Components of intravenous Insulin therapy will include potassium that should be monitored and given as necessary, short-acting Insulin in concentrations of 1 u/ml or 0.5 u/ml, an infusion pump adjustable and accurate bedside blood glucose monitoring done hourly (and if stable, every two hours). The ideal IV Insulin protocol should be easily ordered, effective, safe and easily implemented. A multi-disciplinary team that include nursing, pharmacy and medical staff, appropriate forms and education should support the implementation protocol. Bedside glucose monitoring is essential, backed by a strong quality assurance programme. Specific situations rendering capillary tests inaccurate are common in the critically ill patient and include shock, hypoxia, dehydration, extremes in haematocrit, elevated bilirubin and triglycerides and certain drugs. Various protocols do exist: DIGAMI (studied in acute MI setting), Van den Berg (studied in critical care setting), Portland protocol (used in surgical setting), Markowitz (studied in post-operative heart surgery patients) and Yale protocol (studied in medical intensive care setting). The Van den Berg protocol involves intravenous Insulin therapy to maintain blood glucose between 80 and 110 m/dl with clear guidance to the appropriate action according to the blood glucose result. The Portland protocol involves the peri-operative use of Insulin for ICU and ward settings, aiming at various target levels of blood glucose. The protocol starts during surgery and continuous during the ICU stay. Insulin is administered as an infusion via a pump, piggybacked to normal saline with clear guidance for action according to the blood glucose target. Post-discharge from ICU, diet and subcutaneous Insulin is administered and titrated similarly as in ICU protocol. To convert to subcutaneous insulin, establish 24-hour insulin requirements, give one half of the amount as basal and the rest as pre-prandial boluses before the main meals, based on carbohydrate intake. An effective Insulin therapy must provide both basal and nutritional coverage to achieve target goals; hospitalised patients often require high Insulin doses to achieve desired target blood glucose levels. In addition to basal and nutritional Insulin requirements, patients often require supplemental or correction doses and treatment of unexpected hyperglycaemia.

WS2.3 GLYCOMETABOLIC STATE AT ADMISSION: IMPORTANT RISK MARKER OF MORTALITY IN PATIENTS WITH DIABETES MELLITUS AND ACUTE MYOCARDIAL INFARCTION.
Kamal ABOUGLILA, Diabetes Centre, University Hospital of North Durham, Newcastle, United Kingdom. e-mail abouglila2000@yahoo.com.

Type 2 diabetes is an important cause of cardiovascular morbidity and mortality accounting for >20% of the total number of patients admitted for suspected myocardial infarction (MI). Patients with diabetes have a two-fold increase in hospital mortality when compared with those without diabetes. Long-term follow-up reveals a continuously increasing excess mortality, mostly due to fatal re-infarctions and congestive heart failure.

The difference in mortality and morbidity between patients with and without diabetes remained despite improved therapeutic modalities that have resulted in a decline in the overall morbidity and mortality following acute MI. Intensive treatment with insulin caused a 40% reduction in cardiovascular events in the Diabetes Control and Complications Trial. This indicates that regardless of a causal relationship, improved metabolic care reduces the progression of the athero-thrombotic process.

The concept of initiating treatment with insulin infusion to rapidly attain a normalized blood glucose has support from the first DIGAMI (Diabetes Insulin Glucose infusion in acute MI) trial and the study in patients in intensive care by Van den Berghe et al. In the DIGAMI trial, patients with diabetes and acute MI received intense insulin treatment initiated by insulin–glucose infusion during the first 24 h after MI. The 1 year mortality was reduced by 30% in the intensively treated group. After an average of 3.4 years, there was an 11% absolute mortality reduction among these patients.

In summary, long-term outcome in diabetic patients with MI is predicted by age, previous myocardial damage, and not the least the actual glucometabolic state. Institution of intense insulin treatment reduces this risk considerably.

WS2.4 ROLE OF NEWER ANTI-MICROBIAL AGENTS IN SKIN AND SOFT TISSUE INFECTIONS IN DIABETES.
Hisham M. Ziglam, Acute Medicine and Infectious Diseases, Manchester Royal Infirmary, Oxford Road. Manchester, United Kingdom. Email: hisham.ziglam@gmail.com.
Foot complications are common among diabetic patients. Foot ulcers are amongst the more serious consequences. Skin and soft tissue infections (SSTIs) and complicated SSTIs (cSSTIs), particularly those caused by Gram-positive pathogens, are among the most common human bacterial infections. The emergence of resistance to antibiotics such as methicillin and vancomycin has compromised treatment options for these infections and stimulated the search for new antimicrobial therapies. While vancomycin has been the gold standard to treat MRSA infections, newer therapeutic options have been developed over the last 5 years. These include new glycopeptides, daptomycin, tigecycline and linezolid, which is the focus for this presentation. Newer-generation carbapenems, such as ertapenem, are characterised by a broad-spectrum of activity against Gram-positive and -negative aerobes and anaerobes, and are resistant to hydrolysis by many beta-lactamases. With their long half-lives, these agents have an advantage of less frequent dose administration with more rapid bactericidal activity and less likelihood for development of resistance. However, because of their proven activity against highly resistant organisms, these antibacterial agents should be reserved only for life-threatening situations and/or when resistant pathogens are suspected.

Rational antimicrobial use coupled with awareness of infection control measures is paramount to avert the emergence of multidrug-resistant organisms.

ABSTRACTS OF FREE COMMUNICATIONS

ORAL PRESENTATIONS:

Faten BEN RAJAB, Omran ZWIED, Amel AL-SHEPAAN and Enaas ERUK.
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Aim: To assess diabetic control in our patients and comparing the results with insulin therapy & occurrence of acute complications. Settings: A retrospective audit of glycaemic control in patients diagnosed with type 1 diabetes mellitus during a 5 year period (1/1/2000 to 31/12/2004). The clinic at Tripoli Children's Hospital is run by a consultant and specialists with dietician’s support. The attendance at the clinic was once to twice monthly. Patients and Methods: Medical records of patients who would have had diabetes for at least six months were examined. They were divided to three groups according to insulin regimens. Insulin dose ranges from 0.5–1 unit/kg/day. Most of them received higher insulin doses at morning. Data were analyzed in terms of age, gender, insulin regimen, HbA1c level and occurrence of severe hypoglycemia and diabetic ketoacidosis (DKA). Severe hypoglycaemia was defined as hypoglycaemia requiring attendance to casualty or blood sugar < 45 mg% as measured by patient's own glucose meter. Results: There were 104 patients aged from 1 year to 17 years. Female to male ratio was 1.5:1. 70 patients (67.3 %) received premixed biphasic insulin (Human Mixtard 30) twice daily, 19 patients (18.3 %) received NPH insulin once daily and 15 patients (14.4 %) received Mixtard twice daily with additional soluble insulin before the main meal. HbA1c results were as follows: 11 had an HbA1c < 7 % (5 received NPH insulin, 5 received Mixtard 30 and one received Mixtard 30 with soluble insulin before the main meal). 34 patients had HbA1c between 7-9 % (27 received Mixtard 30, 4 received NPH and 3 received Mixtard 30 with soluble insulin before main meal). 27 HbA1c> 9 % (2 received NPH, 15 received Mixtard 30 and ten received Mixtard 30 with soluble insulin before main meal). 32 patients (31%) did not have any HbA1c results on record, either because the parents failed to do the test or due limited facility. Severe hypoglycemia (we considered recurrent attacks as one complication for each patient) occurred in 21 patients (20.2 %) from 104. 6 patients (54.5%) out of 11 with HbA1c < 7%. 30 patients (38.2%) out of 34 with HbA1c 7-9 %, one patient (3.7 %) out of 27 with HbA1c > 9 % and 1 patient (3.12 %) out of 32 who they did not have any HbA1c results on record. Diabetic ketoacidosis occurred in 29 patients (27.8 %) from 104. 20 patients (74.0 %) out of the 27 patients with HbA1c > 9%. 7 patients (20.5 %) out of 34 with HbA1c 7-9 %, no one had DKA from those with HbA1c <7 %, and 2 patients (6.25 %) out of 32 who they did not have any HbA1c result on record.
Conclusion: Suboptimal glycaemic control is still common in our diabetic patients. Poor glycaemic control as measured by HbA1c is associated with increased risk of DKA.

OC2. CLINICAL AND BIOCHEMICAL CHARACTERISTICS OF POLYCYSTIC OVARY SYNDROME IN BENGHAZI- LIBYA

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Background: Polycystic ovary syndrome (PCOS) is a common endocrine condition affecting women in their reproductive age. It is characterized by chronic anovulation, hyperandrogenism and polycystic ovaries on ultrasound. There has been no published data regarding this syndrome in Libyan patients. Objectives: to assess the frequency of different clinical and biochemical features of PCOS in our population and compare it with published series. Materials and methods: a retrospective study of patients’ records at the endocrine clinic in Benghazi was undertaken and the patients fulfilling the Rotterdam ESHRE/ASRM criteria were included. Obesity was defined according to WHO definition. Clinical features, associated diseases, family history, hormonal levels and transabdominal pelvic ultrasonography data were analysed.

Results: 318 PCOS patients were included. The mean age at presentation was 25.8 (15-44) years. Majority (67%) were in the age group (20-29) years. 23.5% were overweight (BMI: 25.0-29.9) while 57% were obese (BMI: >/ = 30). 93% had oligo/amenorrhoea, 91% were hirsute and 60% of the married patients were fertile, acanthosis nigricans was encountered in 15.7% of the cases and acne seen in 12%. 74% had ultrasound features of polycystic ovaries (96.5% of ultrasounds). Diabetes mellitus was diagnosed in 9% of the patients of who their fasting blood glucose levels were available. Total serum testosterone was raised in 26% of the cases (free testosterone and other androgens were not checked) and serum prolactin was raised in 31%. Galactorrhea was seen in 8.8% of the cases. Thyroid disease frequency among the patients and their family members was (5.3%) and (3.8%) respectively. History of diabetes and hypertension among first degree relatives was seen in (16%) and (8%) of the patients.

Conclusion: Anovulation and hirsutism are the dominant features of PCOS in our patients, polycystic ovary morphology (ultrasound features) is absent in up to one quarter of the cases possibly due to the predominant use of transabdominal ultrasound. Obesity is common (over half of the patients). We suspect that prevalence of diabetes, hypertension and thyroid disease are underestimated in our patients.

OC3: PESCRIBING PATTERNS OF ANTIHYPERTENSIVE AGENTS IN HOSPITALIZED DIABETIC PATIENTS IN TRIPOLI, LIBYA.

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Objectives: To describe the prescribing trend of antihypertensive drugs for diabetic hypertensive patients admitted to the endocrine unit at Tripoli Medical Centre between June and September 2005. There mean age was 53±14 years; 14% had type 1 DM and 86% had type 2DM. The mean duration of diabetes was 10±7 years and mean duration of hypertension was 6±5 years. They were 43 men and 57 women. Mean BMI was 31±7 Kg/m². Results: There were more obese women than men (75.4% versus 65.1%). Microalbuminuria was present in 9% and macroalbuminuria in 46%. 20 patients had mild renal failure and 5% with moderate renal failure depending on calculated creatinine clearance . 6% of patients were on diet only, 34% were on insulin, 58% were on oral hypoglycemic agents and 2% were on combined insulin and oral hypoglycemic agent. Hypertension was treated with a one drug (58%), two drugs (34%) or three drugs (8%). Systolic BP <130 mmHg was achieved in 32%. 36% and 63% of those receiving one, two and three drugs respectively. Whereas diastolic BP <80mmHg was found in 30%, 33% and 62% of those receiving one, two or three drugs respectively. Calcium channel blockers were used in 52%. Angiotensin converting enzyme inhibitors (ACEI's) in 49%. B-blocker in 18%. methyldopa in 9%, angiotensin
receptor blockers (ARB’s) in 3% of patients. 3% were on no therapy for their hypertension. 6 out of 9 patients with microalbuminuria (66.6%), 25 out of 46 macroalbuminuric patients (54.3%). 9 out of 20 mild renal failure patients (45%), and 4 out of 5 with moderate renal failure (80%) did receive ACEI. 64% there systolic blood pressure was >130 mmHg, and 67% their diastolic blood pressure was >80 mmHg. With significantly higher female patients with less adequately controlled BP as 70.2% Females (systolic BP>130mmHg) versus 55% males (systolic blood pressure >130mmHg).

Conclusions: low rate of usage of ACEI’s and ARB’s were observed in our diabetic population in contrast with current trends and international recommendations.

OC4. THYROID CANCER IN NORTH EASTERN LIBYA
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Introduction: Thyroid cancer accounts for less than 1% of all human malignant disease. Little is known about thyroid cancer in Libya although nodular thyroid disease is common. Objectives: to assess the numbers and types of thyroid cancer in NE Libya diagnosed over a ten year period and to assess the locally available facilities to manage such cases. Methods: retrospective analysis of case records from the three major hospitals in Benghazi and the clinics affiliated to them over a ten year period (1996-2006). Results: A total of eighty seven cases of thyroid cancer were detected over the ten year period. The F: M ratio was 4.4:1. Most cases (78%) were in the age group 20-60 years. 96.8% of cases presented with asymptomatic neck swelling: single nodule 79.65%, multinodular goiter 15.6%, and diffuse goiter in 4.6%. One case (1.68%) presented with toxic goiter and another case (1.68%) presented with cervical lymphadenopathy without goiter. Diagnostic aids included ultrasonic examination of the neck in all cases, CT scan and radioactive iodine scan in some cases, and fine needle aspiration cytology and excisional biopsy in all cases. Most common histological type was papillary carcinoma in 63.2%, followed by follicular 17.2%, medullary 4.9%, anaplastic in 2.2%, and other types in five case (2 insular type, 1 Hurthle cell type, 1 sequamous type, and 1 metastatic). No metastases were detected (with the available diagnostic facilities) in 86.2% of cases at the time of presentation. 13.8% of cases had metastases: 9 cases (10.3%) in cervical lymphnodes, 5 cases (5.7%) cervical lymphnodes and local infiltration, and two cases had distant metastases: one lung and one spine metastases. All cases were treated by surgery (lobectomy, hemithyroidectomy, or total thyroidectomy) followed in many cases by radioactive iodine ablation and TSH-suppression therapy and chemotherapy. Some diagnostic facilities are available and fairly reliable such as ultrasonography, CT and a MRI scans. Thyroglobulin test is not always available, radioactive iodine scanning and therapy are not available. Cytology and histopathology reports are sometimes doubtful. All surgeons were involved in these cases and sometimes a named surgeon is preferred. Cure rates could not be assessed as most cases were followed-up abroad. Conclusions: Clinical presentations and histological types of thyroid cancer in north eastern Libya are not dissimilar from those in the world literature. Incidence rates can of thyroid cancer cannot be calculated assessed from this study. The results of this study should be confirmed by further studies with improved diagnostic facilities. The locally available facilities to manage cases of thyroid cancer are inadequate and there is an urgent need to improve them.

OC5. TYPE 2 DIABETES IN CHILDREN AND ADOLESCENTS IN TRIPOLI, LIBYA.
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Backgrounds: Type 2 diabetes in children is an emotionally changing issue and an emerging public health problem. Traditionally type 2 Diabetes is a disease of adults, but in the last 2 decades, it has been increasingly recognized in children and adolescents. Furthermore, as we are actually facing a constant growth in the prevalence of obesity in children and adolescents, type 2 diabetes will predictably be found more frequently in other population outside its classical high risk group. Objectives: We aimed to identify and characterize type 2 diabetes in Tripoli and the surrounding districts and to assess the outcome of treatment of type 2 diabetes in children and adolescents. Patients and methods: In this study we reviewed 343 children who were being diagnosed to have diabetes over the last 2 years (2005-2006) at the Department of Pediatric Endocrinology & Diabetes, Tripoli Medical Centre. Records were reviewed for age, sex, Body mass index (BMI),
mode of presentation, family history of diabetes and history of drug intake. Laboratory investigations included serum C-peptide, serum Insulin and autoantibodies. **Results:** We found that 25 out of 343 children (7.3%) were satisfying the ADA recommendation for the diagnosis of type 2 diabetes. There were 17 females (68%) and 8 males (32%). The mean age was 13.4 years; ranging between 10 and 15. Mean BMI was 29.6 kg/m2. Family history of diabetes was present in all patients. There was no history of relevant drug intake of diabetogenic nature. **Conclusion:** Type 2 diabetes during childhood and adolescence is not rare in our community. Physicians in general and pediatricians in particular must be aware of this problem. As a result of this audit, all teenagers diagnosed to have diabetes in our clinic are carefully assessed and all those who were diagnosed in the past with the similar demographic characteristics are being re-scrutinized.

**OC6. ALLEGRO SYNDROME TRIPLE A SYNDROME (ADDISON, ACHALASIA, ALACRIMA) IN LIBYA.**

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Triple A syndrome is an extremely rare syndrome. It is an autosomal recessive disorder characterized by Adrenal Insufficiency, Alacrima and Achalasia. We have studied 15 patients from different families and different geographical locations of Libya. They have presented to our clinic with classical signs and symptoms of adrenal insufficiency, ocular symptoms and achalasia which developed subsequently. The diagnosis was based on clinical grounds & some laboratory studies such as electrolyte disturbance as a result of adrenal crisis due to cortisol and mineralocorticoid deficiency. Base line ACTH was high, and cortisol level was low. Serum rennin & aldosterone levels were low too. Barium swallow demonstrates Achalasia of esophagus. Careful replacement therapy with glucocorticoid, topical lubricant for the eyes (artificial tears) and dilatation of the esophagus was performed for dysphagia. For the achalasia per se definite improvement of symptoms were achieved by surgical correction. Triple A syndrome is treatable syndrome once it is diagnosed, but our impression it is very much under diagnosed in Libya.

**POSTER PRESENTATIONS:**

**P1. NEONATAL HYPERCALCAEMIA DUE TO PRIMARY HYPERPARATHYROIDISM IN A FOUR-MONTH-OLD LIBYAN GIRL: CASE REPORT AND REVIEW OF THE LITERATURE.**

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**Background:** Neonatal primary hyperparathyroidism can begin as soon as parathyroid gland functional in the first trimester of pregnancy, become hyperplastic. It is result of a homozygous, in activating mutation in a calcium–sensing receptor. **Case study:** We report a 4 month-old Libyan girl who presented with failure to thrive, severe dehydration and constipation since early neonatal period. She was found to have severe hypercalcemia. She is a girl of consanguineous parents. However, there was no family history of same illness. Her investigations showed high Calcium level (Serum Calcium level reached up to 20 mg/dl with ionized Ca up to 3.8 mmol/dl), low Phosphorus level (3.0 mg%), high alkaline phosphate (1308 IU/l). Her serum intact parathyroid hormone level is very high (1640 pg/ml). She had radiological evidence of metabolic bone disease including subperiosteal bone resorption, generalized rarefaction in long bones, cysts formation and deformities of forearm bones. CT scan of brain was normal, CT scan of abdomen showed bilateral nephrocalcinosis. Isotope scan showed generalized uptake indicate parathyroid hyperplasia. She was treated with normal saline to rehydrate her and to increase urinary Calcium excretion. Loop diuretics (Frusemide) and Predinsolone were also used. Her serum Ca. level improved down to 9.0 mg % on the third day of treatment. She was reviewed by the surgeons who offered her parents total parathyroidectomy with re-implantation of parathyroid gland portion into the forearm. Unfortunately, the patient died after one month of diagnosis because of gram-negative septicemia before she had her operation. **Comments:** Severe neonatal hyperparathyroidism is rare condition with around 50 cases reported in the international literature. To our knowledge, this is the first patient to be reported in Libya.
P3. POST KIDNEY TRANSPLANT DIABETES MELLITUS (PTDM) AMONG FOLLOW UP PATIENTS BENGHAZI, LIBYA.

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Background: Diabetes and impaired glucose tolerance occurring as a complication of organ transplantation have been recognized for many years. About 20% of non diabetic patients develop hyperglycaemia after transplantation. Diabetes development after transplantation has been shown to have a similar effect on morbidity and graft survival as pre-transplantation diabetes. Patients and Methods: For estimation of PTDM among active follow up patients to BNC till the end of 2005, period of follow up ranged from 22 months (February 2006) to 212 months (March 1988). Diagnosis of PTDM was according to American Diabetes Association (ADA) Criteria (WHO 1999). Possible risk factors were examined including sex, age, immunosuppressive treatment, HCV Positivity, body mass index (BMI), family history and history of acute rejection. Time of diagnosis of PTDM also was studied, state of graft function and type of treatment for PTDM. Results: PTDM was diagnosed in 26 out of 155 (16.7%). 10 patients were females and 16 were males. Family history was positive in 4 patients (15.3%). History of acute rejection in was found in 5 patients (18.5%). HCV were positive in 16 patients (61.5%). Age was above 40 years at time of diagnosis in 17 patients (65.4%). Out of them 15 patients had Living Related Kidney Transplant (LRKTx) and 11 had Living Unrelated Kidney Transplant (LURKTx). The mean BMI was 24.0±7.0 kg/m², only one patient had a BMI above 30 kg/m². Mean random plasma glucose was 520±250 mg/dl and no patient presented with DKA or HHS. Time of diagnosis of PTDM is < 3 months in 10 patients, ≥ 3 months < 6 months in 4 patients, ≥ 6 months < 1 year in 4 patients, ≥ 1 year < 5 years in 6 patients and ≥ 5 years in 2 patients. PTDM developed in 23 patients out of 127 on Cyclosporin A (CSA) as their main anti-rejection therapy, Azathioprine as main treatment in one out of 17 patients, Tacrolimus (Prograf) as main treatment in 2 out of 9 patients. All patients were on steroids in their immunosuppressive protocol. The daily dose of steroids ranged from 60 to 40 mg immediately post-transplant reducing to between 5 and 7.5 mg as a maintenance dose. Renal function was normal in 11, impaired in 9 patients (Serum Creatinine less than 2) and of chronic allograft nephropathy (CAN) in 6 patients. Medical treatment for hyperglycaemia was not needed in 3 patients. From those who needed insulin, 2 of them received insulin for 2 weeks& 5 weeks one of them develop hyperglycemia10 months later. Conclusion: PTDM is a recognized complication with negative impact on graft function & survival. However, it is invariably permanent and remission may occur spontaneously. Multiple risk factors for PTDM are involved.

P4. CHARACTERISTICS AND OUTCOME OF DIABETIC PATIENTS ADMITTED WITH ACUTE MYOCARDIAL INFARCTION IN BENGHAZI, LIBYA.

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Introduction: Diabetic patients are two to four times at more risk of developing CAD than non-diabetic patients. Diabetes was present in 10-30% of patients with acute myocardial infarction (AMI) and is associated with increased morbidity and mortality despite thrombolytic therapy. Aims: The aim of the study is to evaluate the demographic features, clinical presentation, in-hospital course and management in diabetic patients with AMI admitted to the coronary care unit (CCU) of 7th October hospital, Benghazi. Materials and methods: A retrospective study in which the medical records of diabetic patients admitted to the CCU with AMI in the year 2005 were reviewed. Data collection included demographic data, cardiovascular history, diabetic history, other risk factors, clinical presentation, and clinical course. Treatments received at hospital and at discharge were also recorded. A comparison was made between diabetics and non-diabetics using statistical analysis with chi-square test. Results: A total of 157 patients were admitted to the CCU with AMI. 81 patients (51.6%) had diabetes (all type 2) for average of 13.3 ± 8.9 years. There were more females in the diabetic group (32 (39.5%) vs. 12 (16%)) and the diabetic patients were more likely to be hypertensive 37(46 %) vs. 24 (32 %). There was no difference in presenting
symptoms nor in symptom duration between the two groups. However the diabetic patients were more likely to present with complications (35.8% vs. 19.7%, p < 0.02) particularly acute heart failure (19.8% vs. 5.3%, p < 0.005). There was no difference in treatment prescription between diabetics and non-diabetics both in-hospital and at discharge. There was no significant difference in the rate of thrombolytic use between the two groups (54 (66.7%) vs. 45 (59.2%), p > 0.05). Diabetic patients have longer duration of stay than non-diabetics (6.9 vs. 5.6 days, p < 0.01). There was no difference in the rate of in-hospital complications or death between the two groups in this hospital setting (10 (12.3%) vs. 9 (11.8%). Conclusion: Over half of our patients admitted with AMI had diabetes with more risk to present with complications and to have a more prolonged hospital stay than non-diabetics. The overall management of diabetic patients with AMI was good with high rates of use of therapies. The high rate of diabetes in our cohort, calls for more aggressive management of risk factors in diabetic patients.

P5. THE INFANT OF DIABETIC MOTHERS IN TRIPOLI MEDICAL CENTER
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Diabetes is an important disease among Libyan pregnant women. Infants of diabetic mothers (IDM) face multiple problems which can be avoided by better glycaemic control during pregnancy and good management after delivery. In the past, nearly one third of these IDM are lost. This study was performed over a period of 18 months (1.1.2005 - 30.6.2006) in Tripoli Medical Centre, a secondary and tertiary referral centre for the Tripoli and the western provinces of Libya. 122 infants of diabetic mothers were seen. This represented a 1% of the total number of babies seen in the neonatal unit. 72% of mothers had type 1 diabetes (T1DM), 11% had type 2 diabetes (T2DM) and 17% had gestational diabetes mellitus (GDM). Fifteen percent of them were prima gravida. Hypertension was present in 46% of the mothers. 93% was delivered at term and 7% delivered prem. The mode of delivery was by caesarean section in 80% and normal vaginal in the remaining 20%. The Just under half (47%) had macrosomia defined as birth weight of ≥4 kg. No complications were observed in 72% of these infants, whereas, 17.3% had hypoglycaemia, 11% had respiratory distress syndrome, 2.2% had high bilirubin (>15mg/d). No congenital anomalies were detected in this cohort. Average stay in the nursery was three days.

P6. ACCURACY OF FINE-NEEDLE ASPIRATION BIOPSY OF THYROID NODULES COMBINED WITH AN EVALUATION OF CLINICAL AND ULTRASONOGRAPHIC CHARACTERISTICS.
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Background: Thyroid nodules are the commonest thyroid abnormality. Despite the fact that most are benign, the fear of malignancy is the principal concern of both the physician and the patient. Fine needle aspiration biopsy (FNAB) cytology is sensitive for detecting malignancies. FNAB is an operator (interpreter)-dependent procedure whose diagnostic accuracy has deficiencies especially in diagnosis the indeterminate results. Objectives: We aimed to evaluate the accuracy of FNAB in our hands and to assess the ability of clinical examination and to assess the role of ultrasonography in the preoperative diagnostic management of patients with solitary or dominant thyroid nodules. Study Design: this study was performed in Tripoli Medical Center – endocrine clinic on 445 patients with thyroid nodules between September 1999 and January 2007. Clinical examination, ultrasound (US) and FNAB were done for all patients. The clinical factors studied are growth rate, size, consistency, and mobility of lesions. US factors such as hypo echoic, ill defined margins, presence of calcifications as described in the literature as high risk for cancer. Surgery was performed on 129 patients. Clinical, US and cytolological findings were correlated with the final results (i.e. histological) for these patients. Results: In all operated patients, satisfactory smears were obtained (10 of them were repeated several times (2-4) till became satisfactory) and classified as benign, suspicious or malignant. The clinical factors studied, we found predictive significance for tumor consistency and not for other factors, with clinical sensitivity in detecting malignancy of 77.7%. The U/S factors as examination were sensitive in detecting malignancy (sensitivity of 85%.
specificity 56.6%, and diagnostic accuracy of 61%). Among the 129 cases, 25 were malignant; the diagnostic yield of FNAB in detection of malignancy in nodular thyroid disease was 7.7%. 84 patients were colloid, 17 were follicular adenomas, one was colloid with micro follicular adenoma, one case of Hashimoto’s thyroiditis, one case was subacute granulomatous thyroiditis. FNAB sensitivity was 40%, specificity of 99% and diagnostic accuracy of 87.5%, false–positive results of 1%, false–negative results of 60%

**Conclusion:** We conclude that the limitations of FNAB are based mainly on the difficulty of differentiation of follicular adenomas from well differentiated follicular carcinomas. The high false-negative results in our study may be attributed to sampling errors (most malignant lesions were< 3cm), to interpretive errors by cytopathologists or the small number of operated patients. We suggest that we should combine clinical, ultrasonographic and FNAB to select patients with nodular thyroid disease for surgery.

**P7. PITUITARY AND OTHER INTRASELLAR TUMOURS IN TRIPOLI LIBYA: A STUDY OF AN ENDOCRINE CLINIC POPULATION (1982-2004)**

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**Backgrounds:** Pituitary tumours are the most common cause of the syndromes of pituitary hormone hypersecretion and hyposecretion in adults. They account for about 10% of all intracranial neoplasms. In Libya, data on prevalence and types of tumors in the pituitary region are lacking.

**Objectives:** To determine the types of pituitary tumours, clinical diagnoses, management and outcome in our endocrine clinic population.

**Patients and Methods:** This study is a retrospective analysis of all patients with pituitary tumours or lesions in the pituitary area whose records contained the necessary information and who were seen at the endocrine clinic over the past 22 years (1982 – 2004). A total of 89 records were included in this analysis. Data analysed were: age at diagnosis, sex, clinical, radiological diagnosis, types of tumours, functional status of the tumour, type and complication of surgery and pituitary hormone deficiency.

**Results:** The mean age of the patients was 35.6±13.7 (range 6–75) years. The majority were in the age group 17-38 years. There were 45 females and 44 males. Twenty seven of these tumours were non-functioning (30.3%) and 24 tumors were prolactin–secreting (27%) of whom 18 were females. Twenty tumours were growth hormone-secreting (22.5%) of whom 13 were males. 7 were craniopharyngiomas (7.9%) and the remaining were other lesions. 56 cases were classed radiologically as macroadenomas (62.9%) with suprasellar extension in 13 of them. There were 22 micro-adenomas (24.7%), 2 empty sella syndrome (2.2%), a single acase of hypothalamic tumour. Interesting observations include a single case of full blown Cushing disease with normal MRI findings, a case of long standing primary hypothyroidism with secondary pituitary enlargement who was referred as pituitary tumor, and a case of true TSH-secreting pituitary adenoma. Surgery was performed for 53 (59.5%) patients [29 patients had transcranial surgery (32.6%), 10 patients had transphenoidal surgery (11.2%), one patient had bilateral adrenalectomy for Cushing disease. In 14 patients (15.7%), the type of surgery could not be ascertained. Interestingly, 2 cases of presumed tumours were confirmed histopathologically to be granulomatous disease (sarcoidosis) and one case had pituitary adenocarcinoma. 38 patients (42.6%) had hypopituitarism of whom 26 patients developed panhypopituitarism postoperatively. One patient had developed hypopituitarism following radiotherapy. 24 patients (26.9%) are still on regular follow up and 17 patients had been followed for periods between 3-10 years.17 cases had been followed for less than 2years. 29 patients (32.5%) were lost to follow up and 2 cases were confirmed dead one of them of because of Bronchogenic carcinoma.

**Conclusion:** In this single clinic series, non functioning pituitary tumours were the commonest; men and women were affected almost equally. Women were predictably seen more often for prolactin- secreting tumours. On the other hand; GH –secreting tumors, non functioning pituitary tumours and craniopharyngiomas affected more men. Macroadenomas occur more frequent than microadenomas among our patient population probably reflecting the referral pattern and macroadenomas were seen more in men. Panhypopituitarism at presentation, reflecting the mass effect, was less often and affected more males.

**P8. PATTERN OF PITUITARY ADENOMA IN BENGHAZI, LIBYA**

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Introduction: Pituitary adenomas are the most common cause of pituitary hormone hypersecretion and hyposecretion syndromes in adults. They account for around 10% of all intracranial neoplasms. 

Objectives: to evaluate the frequency of different types of pituitary adenomas and their clinical characteristics among patients attending an endocrine clinic in Benghazi.

Materials and methods: A retrospective analysis of patients’ records between 1988 and 2004 was conducted.

Results: Over a period of 16 years, 90 subjects were diagnosed to have pituitary adenoma. 75.6% were females and 24.4% were males. 56.7% of the patients had macroadenoma and 43.3% had microadenoma. Prolactin secreting adenoma was the most common pituitary mass lesion (72.2%). Headache was the most common symptom (present in 70% of patients of whom 70% had macroadenoma). In 40% of the patients, the headache was accompanied by visual disturbances, however in most of the cases the headache was due to different problem rather than due to the adenomas. 30% of female patients presented with amenorrhea and 20% with oligomenorrhea, while 45% of the males presented with impotence. Conclusion: Functioning pituitary adenoma constitutes more than 90% of cases. Prolactin secreting pituitary adenoma is the most common pituitary mass lesion. Females represent more than 2/3 of cases in most types of pituitary adenomas. Our results are consistent with most of the published data worldwide.


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Backgrounds: Diabetes mellitus (DM) is increasingly becoming a major public health issue in many newly developed countries and particularly in the United Arab Emirates (UAE) where over 24% of the UAE nationals have diabetes. The Sheikh Khalifa Medical City (SKMC) had had a clear admission policy and a fully computerized medical records system since its inception in 2000. Access to this database allowed a golden opportunity to study the hospitalization pattern and assess the contribution of different disease processes to the overall morbidity and mortality.

Objectives: We aimed to 1) describe the contribution of diabetes to admissions to hospital, 2) crudely assess the outcome of hospitalization episodes of people with diabetes (i.e. leaving the hospital alive or dying in hospital) and 3) attempt to identify the specialty-based DM-related clinical activities.

Methods and Patients: This is a descriptive retrospective study. The computerized records of the SKMC were accessed to extract data sets for the period between 1.2.2000 and 31.7.2006 specifically for those with diabetes as a primary or secondary diagnosis. There were a total 51,169 episodes during the study period. Their data describing age, gender, admission source, length of stay, diagnosis, speciality and outcome were analysed.

Results: The proportion of diabetic patients of the total admissions was 19.1% for the whole period. There was a linear trend of 15.8%, 17.7%, 19.1%, 17.8%, 18.6%, 20.5% and 21.5% over the years 2000 to 2006. The average length of stay was 10.9, 10.7 and 7.7 (median: 5, 4 and 3) days for those patients with DM as a primary diagnosis, those with DM as a secondary diagnosis and the total patient population respectively. Diabetes was the primary diagnosis in 1,227 patients (671 men 556 women) with a mean age of 42.5 years. There was 193 patients younger than 12 years; 138 aged 12-20, 121 aged 21-30 years, 61 aged 30-40 years, 122 aged 40-50 years, 239 aged 50-60 years, 206 aged 60-70 years, 101 aged 71-80 and 46 over 80 years of age. They were mainly UAE-nationals (1066). They were admitted from the emergency room (873); directly from home (198); clinic (38) or other sources (29). Reasons for admissions were attributed to diabetes per se i.e. hyperglycaemia (90), ketoacidosis (291), other comas (7). Other causes included cardiovascular disorders (92), ophthalmic (76), renal (88), neuropathic (30) and other specific problems (57). The majority were discharged home (1146). Others were either transferred elsewhere (16), left against medical advise (39) or died in hospital (26). Those who died in hospital were 68.8 years of age and spent a median of 30 days in hospital (1-208) days mostly under general medicine (13) and critical care (8) dying of cardiovascular (9), renal (7), metabolic (6) or other (3) complications. In the ketoacidosis subgroup, 84 episodes occurred in children <12 years. On the other hand, diabetes was a secondary diagnosis in 8,540
patients (3,494 women; 2,794 UAE nationals). Their mean age was 58.4 (median 59.0) years. Age
distribution was as follows: 43 younger than 12; 34 between 12-20; 265 aged 21-30; 375 aged 31-40;
1426 between 41-50; 2443 were 51-60 years; 2331 were 61-70; 1209 were 71-80 and 609 patients
were older than 80 years of age. They were admitted as a medical emergency (6018), directly
from home (2318) or from clinic (109) or other routes (95). Patients were admitted under general
internal medicine (3114), cardiology (2302), haematology (1808), nephrology (454), general surgery
(388), Ophthalmology (362), neurological sciences (262), medical and surgical oncology (304);
Urology (124), critical care (160), gastroenterology (136), respiratory medicine (134), vascular
surgery (124), plastic surgery (114), ENT (60), Rehabilitation Medicine (33), Thoracic Surgery (24),
Rheumatology (23) endocrinology (13), dermatology (4), Infection disease (3). Of this group the
majority were discharged home well (3968), left against medical advise (166), were transferred
elsewhere (374) and 330 died in hospital aged 65.4 years having been under general (138),
intensive care (103), special medicine (31) cardiology (25) and surgical care (33) for average
period of 44.0 days [median 11.4 (1-1805) days]. Conclusions: Diabetes is an increasing cause for
hospitalization affecting particularly middle-aged adults. This mainly reflects medical and
cardiovascular complications of diabetes.