



The 18th Scientific Conference

Sudan Association of Paediatricians

&

1st Conference of

Sudanese Neonatologist Society

**“Basic paediatrics practice:
are we on the right track”**

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Abstracts

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The 18th Scientific Conference
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Pancreatic auto antibodies in newly diagnosed type 1 diabetic Sudanese children

Abdullah M, Yahia M Rabab

Background: Type 1 diabetes mellitus is now classified as autoimmune (type 1A) and idiopathic (type 1B), but little is known about the latter which is said to be more common among some ethnic populations. Previous study from Sudan using one antibody found that only about 45% were antibody positive.

Objectives: The aim of this study is to evaluate the prevalence of immune mediated type 1 diabetes in Sudanese children aged (1-18) years and to explore the characteristics of those with antibodies negative diabetes.

Methods: This is a cross sectional hospital based study. Eighty patients with newly diagnosed type 1 diabetes were tested for antibodies to insulin auto antibodies (IAA), glutamic acid decarboxylase (GADA), and second-islet antigen (Znt 8A), From July (2011) to May (2012), after obtaining written consent from patients or their parents.

Results: A positive result for one or more pancreatic-related antibodies evaluated was found in 73 (91.2%). IAA were found to be positive in 29 patients (36.3%), GADA in 62 (77.5%), Znt8 A in 13 (16.3%). Seven patients (8.8%) were found to be negative for all auto-antibodies. There was no significant differences in the clinical features between those of type 1A and those with auto-antibodies negative cases.

Conclusion: Our data indicate that the vast majority of cases of type 1 diabetes in Sudanese children considered as immune-mediated and that multiple autoantibody analysis improves identification of these cases. In Sudan there is no difference in the clinical presentation of the two subtypes as is the experience else where.

Keywords: autoantibodies, diabetes, glutamic acid decarboxylase, insulin ,znt8.

The clinical outcome & cost effectiveness of edematous and non-edematous malnourished children treated at Community Nutrition Center in Mandela camp for IDPs (Khartoum state) from April to July 2011

Dr. Ali Arabi ,DrHagir Mohamed

Background: Over the years, the international recommendations are to refer SAM children for inpatient treatment with mortality of 20-30% and 50-60% among edema cases. In the absence of complications, this mortality can be reduced to 5% by implementing CMAM.

Objectives: To study the clinical outcome & cost effectiveness of edematous and non edematous malnourished children treated at Community Nutrition Center in Mandela camp for IDPs (Khartoum state) from April to July 2011.

Methods: This is prospective descriptive analytical longitudinal study, it targeted malnourished children aged from 6months < 60 months.

Informations were obtained by a questionnaire, examination and follow up of the study population for 8 weeks after introduction of RUTF.

Results: 140 malnourished children were seen. Edematous cases were less than 1/4th of the study population.

The average weight gain was (5.6) g/kg/day and it was reached in an average of 38 days.

The average cost of treatment was (\$58.3).

Edematous cases had less weight gain than non edema cases (4.5 VS. 5.9) gm /kg/day , spent more time to recover (39 VS. 32) days and cost more money (\$62.2VS. \$57.4).

MUAC increased by 10 mm and reached few days after reaching desired weight.

Medical complications occurring during treatment were minimal and the majority of mothers were satisfied with the treatment.

The case fatality rate was (3.6%); it was higher in edema cases (6.8% VS.2.7%)

Recommendations:

Expansion , improvement and sustainability of CMAM implementation in Sudan is recommended.

Cerebral Palsy Care in Gezira State Sudan with Reference to Children with Special Needs: A step forward

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Cerebral palsy CP is non-specific term that includes disorders characterized by early onset of impaired movement and posture. It is a non-progressive disorder that may include perceptual problems, language deficits, and intellectual involvement.

The aim of this preliminary work is to study some epidemiological factors, clinical patterns, and associated impairments and discuss the effort done in Gezira State Sudan.

Method: This prospective cross sectional hospital based study recruited all children with C.P. attending the neurology referred clinic in Medani Paediatrics Teaching Hospital Central Sudan {Sep. to Dec. 2012}. The research tools include a questionnaire physical examination and investigations: Study limitations: short period, the small sample and failure to follow up cases.

The results of this study will be presented and discussed with reference to the effort already launched to cater for children with special needs at large and the CP patients in particular. A trial of a novel approach of management of patients with CP is going to be addressed as well.

Key Words: Cerebral palsy, epidemiological indicators, complications, children with special needs, Novel approach, Medani, Sudan

Management of sickle cell painful crisis

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Sickle-cell disease (SCD) is a inherited autosomal recessive hemolytic anemia that is due to a point mutation, leading to the substitution of valine for glutamic acid, causing wide spectrum of clinical manifestations in addition to hemolysis and anemia.

SCD is endemic in the old agricultural oasis in Africa, Middle East and past to the Europe and America because of the immigrants.

Acute painful crisis is the commonest presenting feature that can cause significant morbidity and negatively impact the patient's quality of life.

Understanding the type and origin of pain in SCD is vital before initiating management of chronic pain or acute on chronic pain, as in SCD. The impact of hemolysis and vaso occlusion in the painful crisis.

The pain is affecting all the systems of the body creating an emergency call for all the hormones in the endocrine system, this tell us the our approach toward pain management shall be changed to palliative intend in order to overcome

The behavior of the patients during and after the acute episode should be reviewed by the treating team in order to distinguish conditions that are high risk to develop addiction, like Aberrant drug-taking behaviors, physical dependence, and the less likely behavior to develop addiction like tolerance, and drug seeking (Pseudoaddiction)

The understanding of the drugs used in management of pain is vital to improve the pain management and prevent the side effects.

Non pharmacological drug management play important role in pain management

The pain showed not be judged by the doctors only but rather keeping the patient perspective into consideration is important to keep good patient doctor relationship

All these issues will discussed in details

Ocular tumors in childhood

Dr Isra mohamed Osman, Dr Intisar Yassin.

Introduction: It is important for the pediatrician to be aware of malignant and benign ocular tumours in childhood. The most common benign tumour is dermoid cyst while the most common malignant intraocular tumour is retinoblastoma. Pediatricians play a vital role in diagnosing ocular tumors in children. Some malignant tumors can threaten the child's life as well as the child's sight. Early diagnosis is essential for proper management and better prognosis and outcome.

Objective: To review clinical presentation, MRI, surgical management and histopathological analysis and ocular outcome of children presenting with orbital tumors to the orbit clinic.

Methods: All children presenting with orbital tumors to the orbit clinic in Mekkah eye complex from January 2012 to October 2013 were included in the study.

All participants had full ophthalmic examination, MRI, appropriate surgical management, histopathological analysis, referral to oncologist when needed and assessment of final visual outcome.

Design: Retrospective, consecutive, interventional case series.

Results: 55 patients had surgery for orbital tumours, the youngest was 8 months and the oldest was 12 years old. Distribution of patients according to sex: 34 pt. (62%) were males while 21 were females.

Distribution of pt. according to the type of surgery was as follows: 42 pt. had enucleation (78%), 6 pt. had exenteration (9%) and 7 pt. had exisional biopsy (13%).

The distribution of tumours according to histopathology was:

Retinoblastoma 40 pt. (73%), dermoid cyst 4 pt. (6%), rhabdomyosarcoma 6 pt. (9%), squamous cell carcinoma 3 pt. (4%), haemangioma 2 pt. (4%), leukemic infiltrate 1 pt. (2%) and orbital mycetoma 1 pt. (2%).

Clinical presentation of retinoblastoma pt. was leucocoria in 21 pt. (50%), orbital mass (advanced disease) in 19 pt. (45%).

Bilateral retinoblastoma was found in 6 pt. (14%).

Spread of retinoblastoma out of the globe was detected by MRI in 4 pt. (9%) while 10 pt. (23%) were found to have penetration of the tumour through the ocular envelope by histopathology analysis.

All retinoblastoma pt. were sent to paediatrics oncologist.
Crypexy (local therapy) was done for 2 pt.(5%) to avoid enncleation.
3pt.(8%) ended with total blindness (bilateral retinoblastoma).

Conclusion: Ocular tumors in childhood can lead to severe ocular and systemic disabilities.

MRI and histopathology analysis have important role in diagnosis.
Early diagnosis with proper manegment are essential to preserve the eye ball and useful vision.

Regional consensus opinion for the management of Beta thalassemia major in the Arabian Gulf area.

Qari MH, Wali Y, Albagshi MH, Alshahrani M, Alzahrani A, Alhijji IA, Al-momen A, Aljefri A, Al Saeed HH, Abdullah S, Al Rustumani A, Mahour K, Mousa SA.

Thalassemia syndrome has diverse clinical presentations and a global spread that has far exceeded the classical Mediterranean basin where the mutations arose. The mutations that give rise to either alpha or beta thalassemia are numerous, resulting in a wide spectrum of clinical severity ranging from carrier state to life-threatening, inherited hemolytic anemia that requires regular blood transfusion. Beta thalassemia major constitutes a remarkable challenge to health care providers. The complications arising due to the anemia, transfusional iron overload, as well as other therapy-related complications add to the complexity of this condition. To produce this consensus opinion manuscript, a PubMed search was performed to gather evidence-based original articles, review articles, as well as published work reflecting the experience of physicians and scientists in the Arabian Gulf region in an effort to standardize the management protocol.

Risk Factors for Asthmatic Children Attending the Paediatric Clinic at Al-Aml National Hospital, Sudan.

*Satti Abdelrahim Satti,
Omer Saeed Magzoub,*

Asthma is the most common respiratory disorder in children. It could be precipitated by several triggering factors including respiratory tract infection, smoke, weather changes and many other factors.

Objectives: To determine the risk factors for bronchial asthma in children attending the paediatric department at Al-amal National Hospital.

Design and setting: A hospital based prospective study carried out between 19/11/2012 to 20/2/2013 at Al-Amal National Hospital, Khartoum North, Sudan.

Subjects and Methods: 120 patients (1-18 years) were questioned about their medical history through a questionnaire form and examined clinically. Data was analyzed using the Statistical Package for Social Sciences (SPSS).

Results: 120 patients were included in the study. Male to female ratio was 1:55 to 1. Most of them (81.66%) have family history of bronchial asthma. Weather change (91.66%), respiratory tract infections (80%), smokes and fumes (77.5%), house dust (75%) and strong perfumes (69%) were found to be the major triggering factors. Asthma could be triggered by more than one factor in the same child. Only 39 patients were on regular follow up. All of them were on inhaled steroids. Only 4 were using long acting inhaled B₂ agonists and steroids.

Conclusions: Asthma could be triggered by more than one factor in same child. Weather change is the most common triggering factor followed by respiratory tract infections, smokes and fumes, house dust and strong perfumes. Protocols for management of asthma modulated for local use will be of great help.

THALASSEMIA Major and The Heart

Dr Hanan Salih

Consultant Pediatric Cardiologist

MCH Al Ahssa- KSA

- Thalassemia major is characterized by severe hemolytic anemia from the first year of life,
- which requires blood transfusion therapy for the patient's survival.
- This is followed by multiple chronic organ damage, growth retardation and a considerably reduced life expectancy. The heart is one of the most affected organs
- heart disease accounts for the overwhelming majority of premature deaths in this population ,
- with a 30% to 40% mortality occurring between late teenage and 30 years of age
- But is now improving due to the improvement in the identification of patients at risk and the management strategies

تاريخ طب وصحة الأطفال في التراث الإسلامي والعربي History of Pediatrics & Child Health in Muslims & Arabs

د. ساتي عبد الرحيم ساتي : إستشاري طب الأطفال

“قال تعالي ” قل إن صلاتي و نسكي ومحياي وماتي لله رب العالمين
نشأ الطب الإسلامي بعد بعثه النبي (ص)، وظل طيله قرون الحضاره الإسلاميه, حيث قام على
هدى الإسلام. القران الكريم تعرض لمسائل خلق الجنين والرضاعه وكفاله الأيتام. الطب الإسلامي كان حلقه
أساسيه من تاريخ تطور الطب وكان مصدراً للطب الاوروبي. يعتبر الحديث النبوي الشريف ” من تطيب ولم يعلم
منه طب فهو ضامن (أى مسؤول)“ حجر الزاويه في آداب مهنة الطب الإسلامي. أحاديث المصطفى (ص)
لعبت دوراً هاماً لتهيئه المناخ المناسب للطب الإسلامي ويسمى بالطب النبوي
أول كتاب ألف في تخصص طب الأطفال هو ” تدبير الحبالى والأطفال والصبيان وحفظ صحتهم“
لمؤلفه أحمد بن محمد ابن يحيى البلدى. من أشهر الأطباء المسلمين والعرب : أبو على أحمد بن عبدالرحمن بن
مندويه, أبوبكر محمد ابن زكريا الرازى , ابن سينا , و على بن العباس الجوسى وغيرهم
المسلمون أنشأوا كثيراً من المستشفيات التى كانت تسمى بالبيمارستانات. هل من الأفضل أن يلتفت
المسلمون إلى تراثهم فيصنعوا لأنفسهم طباً نابعا من تراثهم وبيئتهم وفق حاجتهم ويعنى بمشاكلهم ,
وإنسانيا يعنى بالإنسان وبعبوديته لربه ؟؟

A Study on Cutaneous Manifestations Among Diabetic Children (0_16)years in Jaber Abo Eliz Diabetic Center ,Albulk children Hospital,in Khartoum,Sudan(March,2o11 _March,2o12)

Saly Dawoud Hussien, .Hyder.M.Ali,Mohamed A.Abdella & Atif A.Saad

A hospital based study was conducted in Khartoum, Sudan at Jaber AboEliz diabetic center (JDC) &Albuluk children hospital

The aim of this study was to estimate the prevalence of cutaneous manifestations among diabetic children, to find out the relation between the disease duration of DM and glycemic control and between presences of cutaneous manifestations.

Four hundred diabetic children (54%males, 46% female), 328 of them were seen at JDC , 72 of them at Albuluk hospital .Their age ranged from (0-16)yrs ,history and skin examination were recorded , serum Hb A1c level was done for each case

Cutaneous manifestations among study group was seen in 23%ofthe cases.22.6% Of patients who had cutaneous manifestation had insulin lipo-hypertrophy , 14.6% had xerosis ,Limited joint mobility SYNDROME in 9.4%, 8.3% had Seborrheic dermatitis , 8.3% had papular urticaria ,6.3 % had eczema , 3.1% had abscess , 3.1 % had impetigo, 3.1% had onychomy-cosis, 3.1% had candidal intertrigo , 2.1%had tinea capitis , 2.1%had tinea versicolor,2.1% had molloscum contagiosum and 2.1%had insulin lipoartro-phy .

forty one percent of patients who had cutaneous manifestations had duration of DM ranging from7-9 yrs.also, Fifty eight percent of patients who had cutaneous manifestations had level of Hb A1C > 11%,so ,There is significant relationship between duration of DM and level of Hb A1C and the presence of cutaneous manifestations

Further studies should be performed in other regions in Sudan particularly in areas where there is poor hygiene and no medical service or diabetic centers, to evaluate the prevalence and presentation of cutaneous manifesta-tion there.

Severe Complication of Measles Among Children

*Admitted to Mohamed Alamen Hamed
Dr. wedad Elshikh Mustafa*

This is a prospective descriptive hospital base study conducted in Mohamed Alamen Hamed hospital in the period between first of April 2012 to 31 of July 2012.

The objective was to study the incidence of true measles among children presenting to Mohamed Alamen Hospital in Khartoum state. Data of all children hospitalized with measles during the period of study was recorded which include personal data & clinical data.

A total of 200 children with clinically diagnosed measles were enrolled in the study accounting for 2.7% of all pediatric admission during study period. Male were 59% Mean age was 37.6 + or - months (95% confidence interval, CI= 31.9 to 43.3) The majority of patients were in the age group 1 to less than 5 years 101 (50.5%), 32(16%) of children with measles were less than 9 months old, 25(12.5%) were between 9 to less than 12 months 23(11.5%) between 5 to less than 10, 18(9.5) 10—15 years.

One hundred thirty two patients (66%) were not vaccinated against measles. Malnourished patients were 83(50.31). Laboratory investigations confirmed the diagnosis of measles in 161(80.5%) these were called laboratory confirmed measles cases,

Pneumonia was found in 103 of patients (51.5%) and gastroenteritis in 103(15.5%) which was the commonest complication. Pneumonia and gastroenteritis in 58 patients (29%), Encephalitis 5 (2.5%) and febrile convulsion 3(1.25%).

Eight children died (4.9%)

Mortality is high among females and significantly associated with infancy P value (0.29%), unvaccinated patients P value (0.035) and who had pneumonia and encephalitis.

Curret Paediatric neurology service in Sudan - challenges and future goals.

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Paediatric neurology service was first established in 2007 as a dedicated paediatric neurology outpatient clinic at Saad Abu El Ella university hospital, Khartoum.

The service was then further extended by establishing 2 further clinics at Soba and Gafar Ibn Ouf hospital, Khartoum. The latter serves as the main inpatient tertiary referral centre in all paediatric specialties including a dedicated paediatric neurology ward whereby acute services are delivered .

The numbers are exponentially increasing and the average number seen per clinic is now up to 60 patients referred from all over Sudan. We are also now seeing patients referred from neighbouring countries as well such as Chad and Eriteria and South Sudan where facilities for neurological investigations are limited. The total number of paediatric neurology patients seen over the last 8 years was 9600 Patient at Saad Abu El Ella hospital alone.

The paediatric neurology load is apparently on the rise necessitating the provision of adequate supportive and multidisciplinary team services. This paper highlights the current situation, challenges and the future goals. The human resources as well as availability of affordable necessary investigations and essential drug provision are our main challenges. There is a dire need for team and capacity building, research implementation and organization of outreach services.

Antenatal diagnosis of congenital heart disease

Najlaa AL Rajaa

Ultrasonic evaluation of the fetal CVS is The 1ry modality for defining & evaluating fetal cardiac status. It requires detailed analysis of the anatomy from numerous views.

Fetal echocardiography has become a common practice in advanced medical centers.

fetal cardiologist is and perinatologist are able to discuss the outcome of high risk pregnancies and population at risk for certain anomalies.

fetal cardiologist performs the sequential segmental analysis of the fetal CVS and can diagnose complex CHD, they can diagnose simple CHD as well.

There is well known risk factors can predispose certain population to specific forms of CHD.

Antenatal diagnosis of CHD can reduce the risk of the complication of complex types CHD and can improve the outcome of other types.

In this talk the risk factors, the indications for fetal echocardiography will be discussed, the common views for assessing the fetal heart will be discussed as well.

Short communication: Comparison of artesunate and quinine in the treatment of Sudanese children with severe falciparum malaria

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Summary

Well matched 66 children (33 in each arms of the study) presented to Segna hospital, Sudan with different manifestations of severe falciparum malaria were randomized to receive intravenous artesunate 2•4 mg/kg body weight at 0, 12, and 24 hours, and then daily, or intravenous quinine 20 mg/ kg loading dose then 10 mg/kg over 2–4 h three times a day. There was no significant difference in the fever, parasite clearance, and coma resolution time. Three patients died, one of them in the artesunate and the rest two in quinine group. One patient developed hypoglycaemia following quinine infusion. Thus artesunate can be used as safe and effective drug for the treatment of severe falciparum malaria.

ITS NOT JUST A HEADCHE HEMMORAHGIC STROKE IN PAEDITRICS AVM OVERVIEW

Dr Baha eldin Hassan Ahmed

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PFCCS instructor SCCM-USA

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The World Health Organization definition of stroke (a clinical syndrome of rapidly developing focal or global disturbance of brain function lasting ≥ 24 hours or leading to death with no obvious nonvascular cause) is far from ideal for children. Children

with symptoms compatible with a transient ischemic attack (TIA), for example, commonly have a brain infarction shown by brain imaging despite the transient nature of their symptoms. Children with cerebral venous sinus thrombosis (CVST) commonly present with headache or seizures. "Stroke-like episodes" without an obvious vascular cause may occur in migraine or metabolic disease but may require specific treatment. Prior illness (eg, infection) or events (eg, head trauma) need not preclude a diagnosis of stroke.

Stroke has been increasingly recognized in children in recent years, but diagnosis and management can be difficult because of the diversity of underlying risk factors and the absence of a uniform treatment approach. Children and adolescents with stroke have remarkable differences in presentation compared with older patients. Stroke type also varies according to age. In Western countries, 80% to 85% of strokes among adults are ischemic, and the rest are hemorrhagic. In children, $\approx 55\%$ of strokes are ischemic, and the remainders are hemorrhagic.

Pediatric stroke leads to significant morbidity and mortality. Roughly 10–25% of children with a stroke will die, up to 25% of children will have a recurrence, and up to 66% will have persistent neurological deficits or develop subsequent seizure disorders, learning, or developmental problems.

Structural lesions account for at least half of HS in children. Arteriovenous malformations.

(AVMs) are the most commonly identified structural lesions found in HS (30%), and 80% of the children with an AVM will declare their malformation by HS. Probability of a first hemorrhage is 2–4% per year.

Patients with AVM not only tend to be younger than the rest of the population suffering from cerebral vascular disorders but also seem to have fewer or no medical co functional toll on previously healthy young individuals' morbidities. Hemorrhage in this population can lead to catastrophic outcomes and claim a heavy

Thorough knowledge of the natural history, predictors, and presentation of AVM hemorrhage is essential for prudent clinical decision making. So there will be no time loss as with stroke time loss is the brain loss.

References: _

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Blood Transfusion in Sickle Cell disease

Dr. Amin AL Agib Mohamed

Sickle cell disease is a common problem in our hospitals. The homozygous Hb.(SS) results from inheritance of two β -globin genes in which there is a single amino acid substitution (glutamine for valine) mutation results (SA) where (HbS) is around 40% (Heterozygous state).

The clinical presentation vary widely amongst different ethnic groups, and the severity is dependant upon presence of other co-existing haemoglobinopathies e.g. GGPD and the severity is also decreased due to high level of HbF (East region of Saudi Arabia and India).

Sicklers tolerate very well chronic anaemia and so careful clinical evaluation is needed before starting blood transfusion; however, it is indicated in acute haemolytic crisis, sequestration crisis while exchange transfusion is done to decrease the proportion of sickled cells without increasing the haemoglobin level and is indicated in certain specific indications as in CVA and acute chest syndrome, priapism or before major surgery.

We should always bear in mind that repeated blood transfusions result in the development of red cells antibodies and that whenever possible, the blood transfused should be a fresh blood (<7days) so that they last longer and minimize transfusion and iron overload as well as decreasing the incidence of transfusion reactions and transmission of infections.

Discussion will be focused on indications of blood transfusions in sickle cell disease, exchange transfusion, iron overload and measures to perform safe and effective blood transfusion in sickle cell disease.

Cervical pott's disease presenting as a retropharyngeal abscess: controlled by aspiration and antituberculous chemotherapy

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Summary

Tuberculosis of the cervical spine is very rare. An unusual case of a six-year-old child presenting with spinal tuberculosis involving cervical and thoracic vertebrae, along with retropharyngeal abscess was reported. The patient presented with progressive neck swelling, neck pain, fever with night sweats and difficulty of swallowing. The lab studies confirmed tuberculosis. The patient was successfully treated with fine-needle aspiration and antituberculous drugs. The patient improved rapidly. His neck stiffness decreased, and he was able to eat comfortably.

Keywords: Pott's disease, retropharyngeal abscess, antituberculous drugs therapy

COELIAC DISEASE IN RED SEA STATE

AMEL AZIZ MALIK
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Coeliac disease is an autoimmune disorder occurring in genetically susceptible individuals, triggered by gluten. While screening data suggest a likely incidence of 1 in 100 person world - wide, coeliac disease is still significantly under diagnosed in the Sudan.

This is a case series looking in 46 cases of coeliac disease in children in Port Sudan . The diagnoses of coeliac was made clinically and according to the new 2013 BSPGHAN guideline. 85% of the cases presented with chronic ill health, stunted growth, severe malnutrition and recurrent admission to the malnutrition ward , 39% in coeliac crises.

Beni Amer was the dominant tribe 63% of cases .4 families have 2 or more child with coeliac .43% were re challenged with gluten with recurrence of symptoms .

All of the cases were diagnosed lately after the age of one year, 54% in the 5-10 yr age group.

The main challenge was adherence to gluten free diet especially in school age group.

As most cases currently escape diagnosis all over the world, an effort should be made to increase the awareness of CD polymorphism. A cost-effective case-finding policy could significantly reduce the morbidity and mortality associated with untreated cases.

Cystic fibrosis in Sudanese children: a report of 17 cases

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Cystic fibrosis is the most common severe genetic disorder among children of European descent. It is much less common in pure Africans or Asians. It affects most critically the lungs causing chronic lung disease, failure to thrive and social deprivation. To our knowledge this is the first report of confirmed cases of cystic fibrosis in Sudanese patients.

Key words:

Cystic fibrosis, children, Africa, Sudan, non-Caucasians

Effect of omega-3 (n23) fatty acid supplementation in patients with sickle cell anemia: randomized, double-blind, placebo-controlled trial

Ahmed A Daak, Kebreab Ghebremeskel, Zahir Hassan, Bakhita Attalah, Haj H Azan, Mustafa I Elbashir, and Michael Crawford

Background: Blood cell aggregation and adherence to vascular endothelium and inflammation play a central role in vaso-occlusive crisis in sickle cell disease. The antiaggregatory, antiadhesive, antiinflammatory, and vasodilatory omega-3 (n23) fatty acids (DHA and EPA) are significantly reduced in patients with the disease.

Objective: The aim was to investigate the therapeutic potential of omega-3 fatty acids for patients with homozygous sickle cell disease in a randomized, placebo-controlled, double-blind trial.

Design: One hundred forty patients recruited from a single center in Sudan were randomly assigned and received, daily, 1 (age 2–4 y), 2 (age 5–10 y), 3 (age 11–16), or 4 (age 17 y) omega-3 capsules containing 277.8 mg DHA and 39.0 mg EPA or placebo for 1 y. Of these patients, 128 were followed up and the data were obtained. The primary and secondary endpoints—rates of clinical vaso-occlusive crisis and hemolytic events, blood transfusion rate, school attendance, and blood count—were analyzed by intention-to-treat analysis (n = 140).

Results: Omega-3 treatment reduced the median rate of clinical vaso-occlusive events (0 compared with 1.0 per year, P , 0.0001), severe anemia (3.2% compared with 16.4%; P , 0.05), blood transfusion (4.5% compared with 16.4%; P , 0.05), white blood cell count (14.4 6 3.3 compared with 15.6 6 4.0 3103/mL; P , 0.05), and the OR of the inability to attend school at least once during the study period because of illness related to the disease to 0.4 (95% CI: 0.2, 0.9; P , 0.05).

Conclusion: The findings of this trial, which need to be verified in a large multicenter study, suggest that omega-3 fatty acids can be an effective, safe, and affordable therapy for sickle cell anemia. This trial was registered with Current Controlled Trials as ISRCTN80844630. Am J Clin Nutr doi: 10.3945/ajcn.112.036319.

Effectiveness and Safety of Delayed versus Early Cord Clamping: A Systematic Overview

Dr. Abdel Moniem Mukhtar, DrPH, MPH, BDS

Head of Research
Public Health Institute

Background and Objectives: The optimal timing for clamping the umbilical cord at term and preterm birth is a controversial subject. Delaying the clamping of the cord for more than one minute after birth or when the cord pulsation has ceased is associated with higher birth weight and increased levels of hemoglobin and iron in neonates. However, there are uncertainties about increased risk of neonatal jaundice and polycythemia, and maternal postpartum hemorrhage. The aim of this paper is to summarize the best available evidence on the benefits and risks of delayed versus early cord clamping.

Methods: systematic searches in Medline and the Cochrane Library were conducted to identify systematic reviews (SRs) of randomized controlled trials (RCTs) on the effectiveness and safety of delayed compared to early cord clamping in (i) term infants and (ii) pre-term infants.

Results: The searches resulted in 137 citations (38 from Medline and 99 from the Cochrane library). One Cochrane SR (last search was in February 2013) on the effects of delayed cord clamping in term infants identified 15 RCTs (n= 3911) of overall moderate risk of bias. The meta-analysis of their findings showed the following results on (i) Maternal outcomes: severe postpartum hemorrhage (risk ratio (RR) 1.04; 95% confidence interval (CI): 0.65 to 1.65), postpartum hemorrhage (RR 1.17; 95% CI: 0.94 to 1.44), hemoglobin values (mean difference (MD) -0.12 g/dL; 95% CI: -0.30 to 0.06), and (ii) Neonatal **outcomes:** neonatal mortality (RR 0.37; 95% CI: 0.04 to 3.41), mean birth weight (101 g increase; 95% CI: 45 to 157), requiring phototherapy for jaundice (RR 0.62; 95% CI: 0.41 to 0.96), hemoglobin concentration in infants at 24 to 48 hours (MD -1.49 g/dL; 95% CI: -1.78 to -1.21), improvement in iron stores at three to six months (RR 2.65; 95% CI: 1.04 to 6.73).

Another Cochrane review (last search was in May 2011) on the effects of delayed cord clamping in pre-term infants found 15 RCTs (n= 738) of overall high risk of bias. The meta-analysis of their findings showed the following results on (i) Maternal outcomes: not reported, and (ii) Neonatal outcomes: requiring transfusions for anemia (RR) 0.61, 95%CI 0.46 to 0.81); intra-ventricular hemorrhage (RR 0.59, 95% CI 0.41 to 0.85); necrotizing enterocolitis (RR 0.62, 95% CI 0.43 to 0.90); peak bilirubin concentration (MD 15.01mmol/L increase, 95% CI 5.62 to 24.40).

Conclusions and recommendation: Delayed cord clamping seems to be a beneficial and relatively safe intervention that could be recommended in countries, where access to adequate nutrition is poor. Further research on long-term effects of delayed cord clamping is needed.

Establishing Rheumatic Heart Disease Control Program in Sudan: achievements and challenges

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Introduction:

Rheumatic heart disease (RHD) continued to have a significant burden on the health of young people in Sudan with a prevalence of 10 per 1000. Control programs initiated by World Heart Organization based on awareness and secondary prevention seized in 1990.

Materials and Methods:

The authors, inspired by the experience of the Pan African Society of Cardiology (PASCAR) and the RHD Group of the World Heart Federation last meeting in Dubai May 2012 initiated a RHD control program initiative based on the Awareness, Surveillance, Advocacy and Prevention (ASAP) initiative of the PASCAR. The program is supported by the Sudan Heart Society and the Sudanese Association of Pediatricians.

Results:

Primary prevention protocol is based on research done locally that validated a clinical algorithm for diagnosis of bacterial pharyngitis. The program included protocols for primary and secondary care physicians as well as health assistants, conducting workshops for their training. Initiation of awareness programs for physicians, medical students, school staff and the public and initiation of a local registry with more emphasis on primary prevention aspect.

The project was approved by Ministry of Health. It has been indorsed to the School and Adolescent Health Program and is applied at different levels

Conclusion:

The paper throws light on the achievements and difficulties of this program.

Clinical and echocardiographic features of children with rheumatic heart disease seen in Khartoum

Eynas Khalid, Sulafa K M Ali

From Jafar Ibn Ouf Children's Hospital and Sudan Heart Institute, Khartoum, Sudan.

Introduction:

Rheumatic Heart Disease (RHD) is a public health problem in Sudan where an incidence of 100 per 100000/year and the prevalence of 10.2 per 1000 was reported. In the main Children's hospital, RHD represent the most common cause of admission to cardiology ward and the most common cause of death due to cardiac disease. In this report we describe the clinical and echocardiographic features of children with RHD seen in 2 referral centers in Khartoum.

Methods:

Prospective hospital based study was carried out from May 2012 to May 2013 including all patients seen in Jafar Ibn Ouf Children Hospital and Sudan Heart Institute Pediatric Cardiology Departments. A questionnaire that contains demographic, clinical and echocardiographic data was used.

Results:

In the study period 226 patients were included, 56% were females. Forty nine percent reside in Khartoum. 81% had RHD and 19% had acute rheumatic fever (ARF). RHD was mild in 8% and moderate to severe in the rest (92%). Mitral regurgitation (MR) was found in 57% and aortic regurgitation (AR) in 25%, while mitral stenosis was found in 4%. Secondary prophylaxis coverage was less than 80% of the scheduled doses in 53% of patients.

Conclusion:

Children present to Khartoum with established RHD manifested in severe forms dominated by MR and AR. Secondary prophylaxis coverage is poor. It is strongly recommended to consolidate programs of primary and secondary prevention and to raise public awareness about this preventable disease.

FAMILIAL MEDITERRANEAN FEVER

Dr Mohamed Gomaa

A 6-yr Sudanese female presented with episodes of recurrent fever & severe colicky abdominal pain of 6 months duration. She also has experienced painful swellings of both knee joints 2 wk prior to her presentation. Her father noticed facial swelling of his daughter, one wk before coming to hospital. No history of skin rash or tonsillitis. Parent are first degree cousins. The patient is fully vaccinated. Examination revealed a slim, febrile (temp. 39C) girl with a puffy face. The clinical and laboratory findings signal the diagnosis of Familial Mediterranean Fever. The patient responded to colchicine. This condition is rarely diagnosed in this country. It also, mimics other common causes of recurrent abdominal pain and acute abdominal surgical cases.



A report of a new case of Genito-Patellar Syndrome (GPS), a rare paediatric syndrome, Sudan

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Summary

Genito-patellar syndrome (GPS) is a newly described condition that comprises absent patellae, genital and renal malformations, joint dislocation and mental retardation, flattened nasal bridge, and short stature. Agenesis of corpus callosum is one of the recognized features of the syndrome. More recently, cardiac anomalies and ectodermal dysplasia have been suggested as additional features of this syndrome. Severe symptomatic osteoporosis, endocrine abnormalities including primary hypothyroidism and delayed puberty, sensori-neural hearing loss, cleft palate are additional features.

Key words: genitopatellar syndrome, absent patellae, genital and renal malformation, joint contracture, Sudan.

Neurogenetics is the present and future of pediatrics

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The emerging DNA technology had great impact on human health, both in adults and children and influenced both rare and global diseases including malaria. Following the improvement in childhood nutrition and the successful implementation of the Expanded Program on Immunization worldwide, genetic disorders emerged as a global health problem with its greatest impact in the pediatric age group. These manifest as degenerative neurological disorders or neurobehavioural impairment. The magnitude of neurogenetic disorders, mostly inherited as autosomal recessive, is apparently large in North Africa (including Sudan) and the Arabian Peninsula due to the high rate of consanguinity. The same founder mutation of one form of congenital muscular dystrophy (MDC1A) was detected in families from Saudi Arabia and Sudan. These advances of pediatric neurogenetics made possible the choice of life-saving drugs, and made feasible presymptomatic, prenatal, and pre-implantation genetic diagnoses for affected families.

Utilizing the power of emerging DNA technology with family-based genetic studies, new causative genes were identified in populations of Arab descent. Those with gene identification included:

- 1) A novel gene for malignant migrating seizures in infancy (MMPEI) in two affected children belonging to a Sudanese family (<http://onlinelibrary.wiley.com/doi/10.1002/ana.23998/abstract>).
- 2) Salih myopathy: Autosomal recessive titinopathy causing early onset myopathy/dystrophy with dilated cardiomyopathy (<http://www.ncbi.nlm.nih.gov/books/NBK83297/>).
- 3) Salih ataxia: (<http://brain.oxfordjournals.org/content/133/8/2439.full.pdf+html>).
- 4) Spinocerebellar ataxia with axonal neuropathy (SCAN1; OMIM 607250; <http://www.ncbi.nlm.nih.gov/books/NBK1105/>)
- 5) A new form of childhood-onset, autosomal recessive spinocerebellar ataxia and epilepsy (<http://brain.oxfordjournals.org/cgi/content/full/130/7/1921>).

- 6) Hereditary spastic paraplegia due to CYP2U1 gene mutations (SPG49) (<http://www.sciencedirect.com/science/article/pii/S0002929712005794>).
- 7) Charcot-Marie-Tooth Disease Type 4B1 (OMIM 601382).
- 8) Horizontal gaze palsy and progressive scoliosis (OMIM 607313).
- 9) Bosley-Salih-Alorainy syndrome (OMIM 601536).
- 10) A novel form of congenital myasthenic syndrome due to AL2G2 gene mutations.
- 11) A novel form of congenital muscular dystrophy due to B3GALNT2 gene mutations.

EFFECT OF GUM ARABIC IN THE RECOVERY OF CELIAC PATIENTS PRESENTED TO GAFAR IBN AUF SPECIALIED CHILDREN HOSPITAL

Nissreen Mohamed, Prof Omima Sabir.

The main objective of this research is to study the effect of adding Gum Arabic (GA) (as a source of rich prebiotics) to gluten free diet in children with celiac disease at Gafar Ibn Auf specialized children Hospital, aiming to assess the speed of recovery regarding their clinical presentation, laboratory investigations, and celiac serology. This study includes 56 patients (55.4% female, 44.6% male) of different age groups ranging from 1 year to 15 years, from different areas of Sudan, in the period from February 2012 to February 2013. Children are divided into two groups; the first group is on GA and gluten free diet, while the second is on gluten free diet only. Children were followed up regularly for six weeks to look for persistence or improvement of symptoms, anthropometric and haematological measurements. Celiac serology (Anti tissue transglutaminaes Anti TTG) was repeated after six months. The results showed that most of children who were taking GA have improved regarding their symptoms for example chronic diarrhea, anorexia, abdominal pain, distention, constipation and irritability, their anthropometric measures(height and weight) had improved by the end of the sixth weeks from their first assessment comparing to the children of the second group. Positive celiac serology, after six months, was found only in 27.6% of the first group and in 59.3% from the second group. Our results concluded that children with celiac disease who took GA with gluten free diet recovered faster than those who did not used GA.

A Natural Remedy for the Dimorphic Anemia of Malnutrition

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Sudanese nomadic tribes living in the Saharan region west of Khartoum State depend completely on food made of sour milk and other milk products cooked with onion and dried meat. This is usually added to a porridge made of sorghum flour. Goat and sheep milk is the main component and green vegetables are hardly, if ever, taken with this meal. Adults, who move out of their residential areas may have access to other types of food in towns and cities while mothers and children, staying always at home, do not have similar chances. Furthermore, in these desert areas there is always difficulty in reaching health care facilities and getting medicines. Children from these areas who presented to Ombada Teaching Hospital have very low hemoglobin and the peripheral blood picture shows dimorphic type of anemia. In the search for locally available ingredients that can prevent the occurrence of this type of anemia among the affected population, we studied the constituents of the commonly available fruits and vegetables in the area. A blend made of Carrots (25 gm), Baobab (100gm) and Godeim (100gm) is found to contain iron (34.8mg), folic acid (2.5mg), ascorbic acid (372.8mg), vitamin A (7000mg), calcium (896.7mg) and potassium (1910mg) with many other components that have high nutritional value. This blend is easy to make, safe, nutritious, refreshing and cost effective.

Conclusion: Carbaodeim (Car: Carrot; bao: Baobab; deim: Godeim) is a naturally available and cost effective haematinic blend that might be added to the food menu of nomadic people as well as patients admitted to hospital with malnutrition or dimorphic type of anemia.

Key words: Carrots, Baobab, Godeim, Haematinic

PROFILE OF NEUROLOGICAL DISORDERS AMONG SUDANESE CHILDREN

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Background and objectives: Neurological disorders account for more than 20% of the world's disease burden with a greater majority of people affected living in Africa. The challenge of diagnosis and managing these patients in a resource limited setting, such as ours is burdensome. There is no available data from Sudan reflecting the magnitude of the neurological disorders and disabilities in the pediatric age group. This study aims to evaluate the pattern of neurological disorders among Sudanese children.

Patients and Methods: This is a retrospective survey of children with epilepsy and other neurodisability disorders who were enrolled in the pediatric neurology outpatient clinic, at Saad Abu Alallah University Hospital during the period from January 2007-August 2013. The data of 9600 patients was revised and classified into 24 categories according to the distribution of their neurological presentation. Almost one third of these patients were excluded because of incomplete data or patient dropout.

Results: A total of 6019 patients were enrolled in the study. Their age was between 3months and 18 years and a male to female ratio was 2:1. The majority of patients were from Khartoum State; however there are considerable numbers of patients coming from all over Sudan. The majority of patients had epilepsy and other neurodisabilities including learning difficulties. That amounted to 52.8%. That was followed by Cerebral Palsy (19.1%), Congenital Anomalies of the Central Nervous System (6.2%), Neuromuscular Disorders (3.2%), Stroke (2.4%), Ataxia and Movement disorders (1.9%) and Syndromes (1.2%). Demyelinating disorders, Headache, Neurodegenerative, Mitochondrial, Metabolic, Hereditary Sensory and Motor Neuropathy, Behavioral disorders, in addition to other rare conditions accounted for the other 14.4%.

Conclusion and recommendations: Neurological disorders constitute a major cause of chronic morbidity in pediatric age group. Appropriate allocation and distribution of relevant resources, and other recommendations will be addressed,

Pattern of Glomerular diseases in Sudanese Children: A clinicopathological study

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Abstract: Glomerular diseases are the most common cause of chronic renal failure and/or ESRD in many countries. The pattern of glomerular diseases (GN) varies from country to country, it is believed that it is more common in tropical countries of the 3rd world than developed countries and this is largely attributed to infections, malnutrition or genetic predisposition. Glomerular diseases in adult Sudanese patients have been reported but no previous report from Sudanese children.

Aim: The aim of the study is to describe the pattern of glomerular diseases in Sudanese children from a clinicopathological perspective

Patients and Methods: We retrospectively reviewed the clinical records of 261 children from the Pediatric Nephrology Unit - Soba University Hospital and Dr. Salma Dialysis and Kidney Transplantation Centre during the period from 2001 to 2005.

Results: Two hundred and sixty one children were studied; mean age was 8.73 yrs (Range 2 month - 16 yrs). There were 157 male (60.2%). The most common presentation was nephrotic syndrome 179 (68.3%). Of the 261 children renal biopsy was done in 145 (55.3%). The most common glomerular disease was Minimal Change disease 85 (32.5%), followed by Post- infectious GN (24.5%), Focal segmental glomerulosclerosis 35 (13.4%), Mesangio-capillary GN 34 (13%) and Mesangioproliferative GN 21(8%). SLE accounted for 11(4.1%) while IgA nephropathy, Membranous GN and Alport syndrome were seen only in (0.4 %) each. HBsAg was positive in 8 patients. At the end of the study 161 (61.6%) improved, 61(23.3%) remained on follow up, 17 (6.5%) lost from follow up, 12 (4.6%) progressed to chronic renal failure and 10 (3.8%) died.

Conclusion: The pattern of GN in our cohort of patients were compared to other parts of the world with an unexpected high prevalence of Post-infectious GN

Patterns of Ocular Pathology in Sudanese Children With Chronic Kidney Disease-2012.

Satti Abdelrahim Satti MD, CABP ; Nisreen Sidahmed Abdeen Sinada MD; Mohamed Babikir Abdelrahim MD, Ahmed Fahmi MD.

Introduction: Chronic Kidney Disease (CKD) has been recognized as a significant medical problem for most of the last two centuries. Evidence-based clinical practice guidelines support early recognition and treatment of CKD-related complications to improve growth and development in children. Disorders of the kidney rarely directly affect vision or change the anatomic integrity of the eyes. Complaints about vision may lead to the diagnosis of a previously unsuspected kidney disease. In children with CKD following eye changes were reported: Red eyes, calcification, different vascular lesions, optic neuropathy, cataract, glaucoma and even retinal detachment.

To the best of our knowledge the relationship between ocular fundus pathology and CKD has never been explored in Sudanese children.

Objectives: To determine the prevalence of ocular pathology and manifestations in children with CKD.

Methodology: It was a hospital-based prospective study in Mekkah Eye Complex hospital between January and July 2012 on children 2 to 18 years old with CKD. Eighty two children were selected by systematic randomized method. A questionnaire and data sheet was performed and tested for every child. History, physical examination and detailed examination of the eyes was done. Written consent from parents and caregivers and ethical consent from hospital administrators were taken. Our data was analyzed using SPSS version 18.

Results: Number of studied children were eighty two. In 63.4% of them their age was between 10 to 15 years. M:F ratio was 1.56:1. The most common cause of CKD was renal stones followed by obstructive uropathy. Half of studied children were hypertensive. Ophthalmological abnormalities were reported in 52.4% of our studied children. The commonest abnormality was vitreous degeneration (12.2%) followed by cataract(7.3%), optic atrophy (6.1%), refractory error (6.1%) and then hypertensive retinopathy in (4.9%). Rare reported findings were retinitis pigmentosa, retinitis puncta albicans, glaucoma and nystagmus. Itching, night blindness, burning and foreign body sensation, photophobia and lacrimation were reported in 31.7% of our children.

Conclusion : There was a high prevalence of ocular abnormalities in our studied children with CKD without affection of vision in most of them. We recommend to have regular ophthalmological assessment of children with CKD in established clinics. Also more studies are needed in the field of eye abnormalities in children with CKD.

Key words : Ocular pathology, children, CKD, vitreous degeneration .

Prevalence, presentation and types of sickle cell hepatopathy among Sudanese children with sickle cell anaemia

Fakhri Elhadi, Alshafie Etayeb, Bakhietta Attalla

Background and Objectives: Standard diagnostic criteria is lacking for sickle cell hepatopathy, an uncommon complication of sickle cell disease. We conducted this study to determine the prevalence, presentations and the various types of sickle cell hepatopathy.

Methods and design: This was cross sectional prospective study at Gafar Ibnuaaf hospital. We defined sickle cell hepatopathy by a total serum bilirubin concentration more than 10 mg/dl not explained by severe acute hemolysis, viral hepatitis, extrahepatic obstruction, or hepatic sequestration. All sickle cell anemia patients who presented with jaundice were investigated for liver function (LFT). Patients with total serum bilirubin (TSB) more than 10mg/dl with raised direct serum bilirubin a focused history was taken, clinical examination was conducted and relative investigations were done.

Result:

The ages of the patients range from 21 months to 15 years with a mean age of 9.79 years(+/- 3.92 SD), nine patients were males and eleven patients were females.

We reported 20 children with sickle cell hepatopathy. The prevalence was found to be 1 per 281. (40%) had no features of hepatic dysfunction and they were categorized as mild sickle cell hepatopathy (group I), (60%) had features of hepatic dysfunction (coagulopathy) two of them also had renal impairment categorized as severe sickle cell hepatopathy (group II). There was a significant difference in the mean of total serum bilirubin between the severe and mild type of sickle cell hepatopathy (36.1 VS 16.8) with P- value less than 0.05.

Conclusion: Sickle cell hepatopathy is an uncommon complication of sickle cell anemia. Patients with sickle cell hepatopathy commonly present with jaundice, fever, abdominal pain, and change in stool and urine color. Sickle cell hepatopathy has two types mild and severe.

Vitamin A-rich porridge for Boarding Khalwa students with night blindness

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Khalwa is a non-governmental boarding school specialized in teaching Quran to Sudanese children. Food supply to Khalwa is completely dependent on donations. Students are fed on low cost and low nutritional value diet made of sorghum flour porridge and a stew made of dry okra, onion and oil. The incidence of night blindness among these students is reported by the Nutrition Department of the Federal Ministry of Health in 2005 as 0.9%. In this study we interviewed and examined 453 Khalwa students in Ombada Area, however blood sampling for assay of vitamin A level was not acceptable by the Khalwa authorities. Thirty four students (7.5%) showed clinical evidence of Vitamin A Deficiency (VAD), 67.6% of them for a period of less than 6 months which was consistent with their stay in Khalwa. Vitamin A fortified sugar is used in Kenya, Zambia, South Africa and Honduras but it is costly and sugar- containing foods and drinks are not in common use by Khalwa students. To supply students with a good amount of vitamin A, we prepared a new porridge formed of sorghum flour; peeled, chopped and boiled pumpkins in addition to their traditional stew. One meal per student contained 250 grams of sorghum flour and 125 grams of pumpkin which supplies 611 μ g (10891 I.U.) of vitamin A according to the USDA SR-25 Composition Tables (>100% Daily Value). Compared to the old porridge, there was a significant difference ($P < 0.05$) in vitamin A, carbohydrate, protein, fiber, fat, ash and moisture content. All students accepted the taste of the new porridge and 91.2% agreed that it is not difficult to prepare. We conclude that adding pumpkins to Khalwa porridge is cost effective and may help preventing VAD and its deleterious effects on vision and health.

Key words: Khalwa, vitamin A deficiency, pumpkin

CLINICAL PRESENTATION AND MANAGEMENT OF POSTERIOR URETHRAL VALVES AT SOBA UNIVERSITY HOSPITAL

Abdelbasit Elsayed Ali MBBS, MD,FRCS (Glasg.), FRCS (Paed. Surg.)

Khalid Ibrahim Alhaj M.B.B.S, MD

The aim of this study was to determine the clinical manifestations of posterior urethral valves (PUV) and outcome of management. This study was conducted in the Department of Paediatric Surgery and Paediatric Medicine at Soba University Hospital. The study included all patients of paediatric age group having urinary complaints with suspicion of PUV. Diagnosis was based on ultrasonography of urinary tract and micturating cystourethrography (MCUG). Thirty five male children with PUV on MCUG were enrolled into this study. Two patients were suspected on antenatal ultrasound of having bladder outlet obstruction. The incidence of PUV was higher in the western region compared to other parts of the Sudan. Three patients (8.9%) had associated congenital anomalies. PUV were most prevalent in the age group of more than one year to four years. Common clinical presentations were dribbling of urine, recurrent fever, anaemia and failure to thrive. Around 22.9% patients had abnormal renal function and 34.3% patients had vesicoureteric reflux (VUR).

This study concluded that PUV is a common cause of the lower urinary tract obstruction in male children in Sudan. A variety of congenital anomalies are associated with the PUV. Delay in diagnosis and treatment leads to end stage renal disease.

Screening of Infants With Congenital Cataract For Rubella Infection

Satti Abdelrahim Satti, MD, CABP. Ebtihal Elyas Mohamed MD. Ahmed Fahmi MD, Msc CEH.

Introduction : Eye examination is a routine part of the periodic pediatric assessment. Prevention of visual impairment due to congenital cataract is now an international priority and is an important component of the WHO international program for the elimination of avoidable blindness by 2020. Congenital rubella syndrome (CRS) is an important cause of cataract and variety of other permanent sequelae in children. CRS can be confirmed if a rubella IgM blood test is performed within the 1st 12 months of life. Surveillance for CRS requires investigations of all infants with congenital cataract. Prevention of CRS with rubella vaccine would be a cost-effective intervention in the area of childhood disability, including blindness.

In our country, Sudan, rubella vaccine is not yet introduced in our national EPI program. Also no surveillance for CRS. Our study aims to screen infants with congenital cataract for presence of rubella infection in two eye clinics.

Objectives : Screening of infants with non-traumatic congenital cataract for rubella infection, so determining the prevalence of CRS and assessing the associated problems.

Methodology : This is a prospective hospital-based study in two eye clinics in Khartoum –Sudan from March 15 to August 15, 2011. 104 infants < one year presenting with congenital cataract were seen. A properly designed questionnaire was used for collection of data. Proper ophthalmologic examination was done followed by blood testing with ELISA for presence of specific Abs. Data was analyzed using SPSS method.

Results : 14(13.5%) of infants were positive for rubella infection. M to F ratio was 1 to 1.1. 13(93%) of positive infants were < 6/12 age. None of positive infants mothers received rubella vaccine and only two (14.3%) of these mothers had a history of fever and skin rash during pregnancy. 13 (93%) of positive infants had bilateral congenital cataract, 10 (71.4%) had head circumference and weights < 3rd centile for their ages and 6 (42.8%) had congenital heart disease.

Conclusion : This study showed a significant prevalence rate of congenital rubella infection, mainly < 6/12 age. None of these infants mothers was vaccinated so stressing the need of introducing the rubella vaccine to our national immunization programs. Proper surveillance and reporting of all CRS cases is recommended with urgent and long term management programs.

Key Words: Infants, Congenital cataract, Rubella.



Self gratification in children : indisputable but implausible. Case Report & literature Review

Dr. Suhair A . Othman MD, MRCP-CH

Background : self gratification(S G) in children , also called Infantile masturbation , is a self genital stimulatory behaviour to gratify one's self , it affects children of both sexes but more in male children. It occurs many times per week and lasts for several minutes . Age of onset ranges from 3 months to 5 years. Most episodes in children lack direct hand stimulation of genitalia and manifested as dystonic posturing of lower extremities allowing pressure on genitalia / perineum , or rocking on floor or a chair , and may associates with facial flushing and diaphoresis , grunting , or feeling of delightment. SG can be stopped by distraction , and this is providing a potential diagnostic clue . The key in counselling parents , is to reassure them that this is a normal developmental behaviour needs no specific treatment apart from distraction and elimination of the psychological activator . To the best of my knowledge , no any published data on self gratification in Sudanese children , though it is strongly present (and constitutes a major parental anxiety) due to the new life styles of the small families that affect children psychologically.

Aim : to explicit the condition as , though it is significantly present in our community , yet is totally misdiagnosed as neurological / other paediatric problems , by : -
- Reporting on 9 cases seen in the period 1/ January / 2011 to 31/Dec / 2012 , and review the literature on the topic. -

Method: Observational study, Sea Ports Corporation Hospital (SPCH) , Port Sudan / Sudan 2011 – 2012.-

Results: 9 cases (4 females , 5 males) were seen .Types of disorder manifestation: in 3 of them (33.3%) , the diagnosis of self gratification was clear due to direct genital manipulation where a cousins: boy scratching the genitalia of the girl with a stone with feeling of amusement in both , and 1 separate boy manipulate himself) . In the remaining 6 , the diagnosis of self gratification was made by the author as they came) , epilepsy (1 female , 11.1%) , intermittent dystonic posturing of the crossed legs while supine, with feeling of delightment or flushing and sweating (3 female , 33.3 % , one of them was diagnosed as UTI that was not confirmed by investigation , nor responded to treatment for many months , rocking in prone position with flushing of the face (2 males , 22.2%) , 4 did not seek medical advice before for this behavior though parents have had major concern and anxiety for the (mysterious) behavior long time before they declare it . The mean age at onset of the condition was 38.9 month (rang 10 month to 6 yrs). The median age at onset was 3 yrs (range 10 mo to 6 yrs) the median age at presentation was 6 yrs (range 1 to 8 yrs).. in one case , the home video (by mobile phone) allowed the definite diagnosis . in 8 out of 9 cases (88.9%) there was a degree of family disharmony , parental aggression on the child or feeling of boredom Conclusion: self gratification in children , also called infantile masturbation , is a rising concern in our society due to the changed life style of the small families and should be considered in the differential diagnosis of epilepsy and other paroxysmal events in children. Video recording avoid the unnecessary investigation and cut short the parental anxiety.

Key words: self gratification , children , infantile masturbation.

THE EFFECTS OF HYPOGLYCEMIA ON COGNITIVE FUNCTIONS OF CHILDREN AND ADOLESCENTS WITH EARLY ONSET TYPE 1 DIABETES

Dr Amani Gindeel Ibrahim

AIMS

This professional project was conducted with the aim of evaluating the current evidence concerning the existence, types and degree of cognitive deficits imposed by hypoglycaemic events in children and adolescents with early onset Type 1 diabetes.

OBJECTIVES

The objectives of this project were to formulate a body of evidence from the existing literature on the effects of hypoglycaemia on the cognitive functions of children and adolescents with early-onset type 1 diabetes.

The evidence was hypothetically presented to provide substantiated, relevant and practically usable facts for education, advice and counseling to families, healthcare and service providers. Consequentially, Evidence Based Practice carried the potential of playing a great role in highlighting some potentially avoidable glycaemic factors affecting future cognitive functions outcomes.

METHODOLOGY

This was a systematic review to answer the research question: Do hypoglycaemic events in children and adolescents with early onset diabetes, predispose to cognitive functions deficits?

Inclusion and exclusion criteria were clearly set to select the most recent evidence (the last 10 years), sound evidence (primary research, published, and studies using objective tools of cognitive assessment, and certain study group criteria (age up to 18 years, type 1 diabetes with early onset).

RESULTS

Nine relevant studies fulfilling the criteria were selected from ten years back to date. Five studies showed that severe hypoglycaemia in children and adolescents with early onset type 1 diabetes resulted in significant cognitive impairments. In older diabetics, the most reported impairments were verbal functions deficits and memory, Whereas, attention, visuospatial and executive functions impairments were the most encountered in the younger children with early onset diabetes.

CONCLUSION

Hypoglycaemia in patients with early onset diabetes was an important but a neither a definite nor a consistent predictor of impaired cognitive functions. Worse cognitive outcomes may have been due to other concomitant diabetes related factors. For instance, the developmental stage of the subjects at the time of occurrence of the first severe hypoglycaemic insult and young age.

Favorable outcomes were associated with late adolescence. However, in preschool children, high maternal educational levels were significantly associated with good cognitive outcomes.



Thrombocytopenia in children With Falciparum malaria: Pediatric Department, Alaml National Hospital, Sudan

*Satti Abdelrahim Satti MD, CABP.
Omer Saeed Magzoub MD.*

Malaria is a major public health problem in Sudan. Thrombocytopenia has been reported to be associated with malaria with incidence between 24-94% in some studies. Usually it runs a benign course and causes no bleeding. It responds usually to anti-malarial treatment.

Case reports: A total of 28 children diagnosed as having malaria due to plasmodium falciparum infection were managed in our pediatric department from September 2012 to March 2013 . Their ages ranged from 10 months to 15 years. 15 (53.5%) of these children had associated thrombocytopenia . Only 2 (13.33%) had severe thrombocytopenia (7,000 and 19,000/ cumm). The rest 13 (86.66%) had mild to moderate thrombocytopenia (\geq 20,000/ cumm).10 (66.66%) were treated with quinine and 5 (33.33%) with IM Artemether. All patients recovered from malaria and thrombocytopenia and discharged home. None of them had bleeding from any site.

Conclusion: Mild and moderate thrombocytopenia is very common in falciparum malaria with a benign course that improves with treatment. Severe thrombocytopenia is uncommon and is not associated with bleeding. Malaria should be considered in any febrile child presenting with low platelets count.

Common Ear, Nose & Throat Problems in the Under- Five Sudanese Children

Wail N Osman 1, Osman M Elmustafa 2 and Inas Mohamed Abd Elgalil 3

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3. Registrar of ORL H & N Surgery. Sudan Medical Specialization Board

Introduction: The health problems of children and especially the under-5 years are of great concern and impact on both medical and surgical practice. No wonder they attract political and administrative concern

Objective: This study aims to identify the common Ear, Nose & Throat (ENT) problems of under-5 Sudanese children and to study the frequency, admissions, available beds and operations and to compare this work load with the rest of the ENT wards. Furthermore, to outline what is needed to improve the services for this age group.

Methodology: This is a retrospective hospital-based study including all patients (n=21384) who presented to the ENT department, Wad-Medani Hospital, Gezira, Sudan, during a period of two years from the first of January 2010 to the thirty first of December 2011.

Results: The total number of the under-5 children was 2330; which contributed to 41.32% of total paediatric age group, up to 16 years, (n=5639) and 10.90% of the total number of ENT patients who presented to the ENT department at Wad-Medani Hospital. The total number of admissions of under-5 children accounted for 32.72% of all paediatric patients and 20.66% of all ENT patients. Their commonest problems found in this study were; adenoiditis & tonsillitis (37.68%), otitis media (27.25%), Upper respiratory tract infections (URTIs) & allergy (12.31%), foreign body related (12.23%), otitis externa (5.45%), others (3.43%), epistaxis (0.75%), hearing & speech disorders (0.90%). The total number of children under-5 requiring surgical operations constituted 55.46% of all paediatric patients and 33.98% of the total number of all ENT patients who were operated on. Of these operations 57.01% were elective and 42.99% were emergency operations. The main indications in 94.77% of the elective operations were adenoidectomy & tonsillectomy, while most of the surgical emergencies 91.32% were due to foreign body related problems.

Conclusions: The ENT problems of the under-5 children in Wad-Medani General Hospital constitute an obvious high proportion of the work load. More attention is to be paid to this age group in terms of facilities, staff training and special requirements needed in settings and equipments. Thus, better handling and outcomes could be achieved for this important and delicate age group.

Peri-operative management of neonatal surgical conditions at Alsewedy paediatrics charity hospital NICU

Dr Yasmin Alzaki .

This brief presentation is inspired by the units experience in neonatal surgical conditions and aims to emphasize on the importance of peri-operative care of sick neonates for paediatricians and neonatologists as well as surgeons.



Neuroprotection for Perinatal HIE – Therapeutic Hypothermia and beyond

Dr. Sajjad ur Rahman

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Lead PI Mag Cool Study

Associate Professor of Clinical Paediatrics Weill Cornell Medical College &
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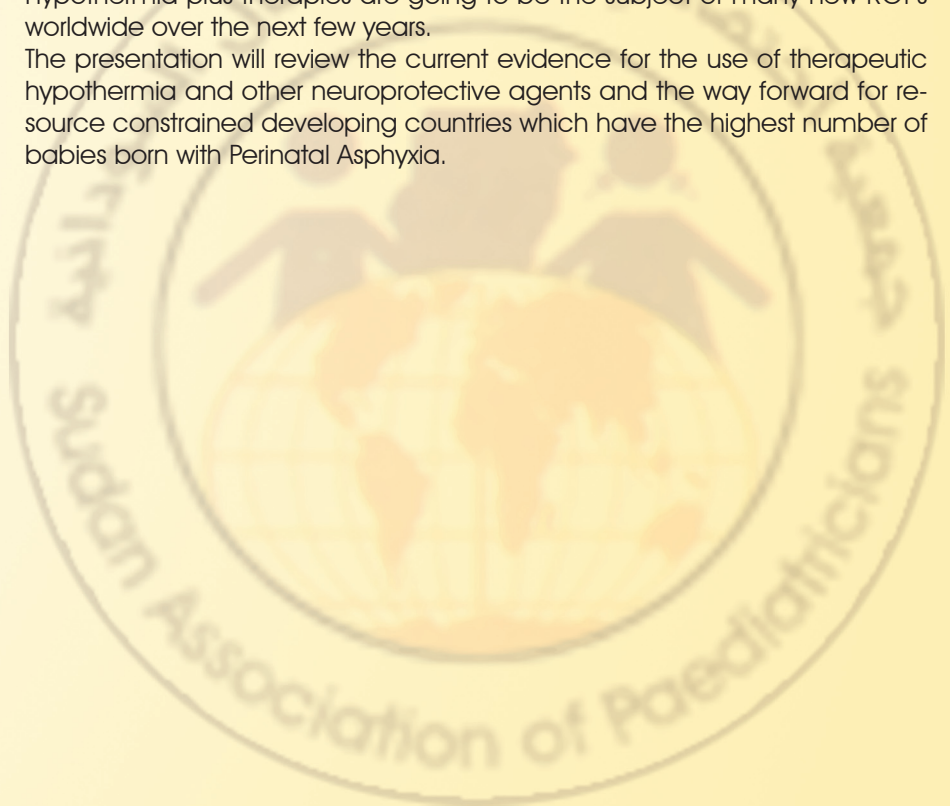
Women's Hospital Hamad Medical Corporation Doha State of Qatar

Perinatal Asphyxia continues to be a major cause of neonatal mortality and morbidity even in the most technologically advanced and prosperous countries of the world. Perinatal Asphyxia causes 9% of global under 5 childhood mortality. The incidence remains unchanged; 1-2% of live births in developed world countries and much higher in developing world countries. The Indian National Neonatal Perinatal Database reported an incidence of 5% among studies conducted in sixteen medical institutes.

Until recent years, the management of HIE was limited to supportive intensive care only because there was no specific treatment available to rescue neurons during HIE. However, over the last decade, moderate therapeutic hypothermia (33.5-34.5 °C), offered during the first 72 hours of life, has emerged as a promising new therapy in reducing neonatal mortality and morbidity due to HIE. Recently published large multicenter RCT's and meta analyses including Cochrane meta analysis 2012, have provided sufficient evidence on the safety and neuroprotective efficacy of this new therapy. Among the NICU's in the developed world, therapeutic hypothermia has now become a standard of care for asphyxiated term neonates. A recent study of HIE lesions in the brain using MRI has shown that whole body cooling is more effective than total body cooling. The most recently published (2011) MRCT, ICE Trial, has shown that whole-body hypothermia is effective and appears to be safe when commenced within 6 hours of birth, both in term and near-term newborns with hypoxic-ischemic encephalopathy. The trial used refrigerated gel packs, instead of an expensive cooling machine, to achieve whole body hypothermia. This simple method of achieving hypothermia could be used, within strict protocols and with appropriate training, not only in resource restricted developing countries but also in non tertiary neonatal settings while awaiting retrieval and transport to the regional neonatal intensive care unit.

Therapeutic Hypothermia can provide up to 30% neuroprotection. Additional neuroprotection may be achieved by using biochemical therapeutic agents in combination with hypothermia. These potential therapeutic agents include Xenon, Erythropoetin, Magnesium Sulphate, Allopurinol, Opioids, Topiramate, Inhaled Nitric Oxide (iNO), N-Acetylcystine, Minocycline and Melatonin. Due to their different mechanisms of action, it is likely that these neuroprotective therapies may add incrementally to the proven beneficial effects of hypothermia. Indeed hypothermia may buy additional time for these neuroprotective agents to act within an expanded 'therapeutic window'. These Hypothermia plus therapies are going to be the subject of many new RCT's worldwide over the next few years.

The presentation will review the current evidence for the use of therapeutic hypothermia and other neuroprotective agents and the way forward for resource constrained developing countries which have the highest number of babies born with Perinatal Asphyxia.



Prevalence, clinical presentation, main causes of Acute Kidney Injury among neonates

Rounug Eisa Makki Osman

Consultant

Acute renal failure (ARF) is a very common problem in the neonatal intensive care unit and it is a common contributor to morbidity and mortality in newborns.

Acute kidney injury (AKI) has now replaced the term acute renal failure, and a universal definition and staging system has been proposed to allow earlier detection and management of AKI. The incidence of AKI in the neonatal period is greater than during later childhood. But studies have reported that 8% to 24% of newborns admitted to the neonatal intensive care unit have ARF. In Sudan we found the prevalence is 2.6% .

Antinatal period and perinatal events such as maternal fever drugs during pregnancy, sepsis, hypovolemia, hypotension, heart failure, perinatal asphyxia, prematurity, drug is a predisposing factors for AKI.

Sepsis is the major cause of acute renal injury and this is due to poor maternal-child infection control. we need to detect danger signs during pregnancy and postnatal period and to improve neonatal health services including laboratory investigations including septic screening and imaging facilities .

The Acute Dialysis Quality Initiative (ADQI) has developed the RIFLE criteria to standardize the reporting and classification of AKI . This is the first study in Sudan using the RIFLE criteria for classification of acute renal injury among neonates. The RIFLE criteria consists of three graded levels of injury (Risk, Injury, and Failure) based upon either the magnitude of elevation in serum creatinine or urine output, and two outcome measures (Loss and End-stage renal disease).

Study design: Observational case finding study

Study area: The study was conducted in Gaafar Ibn Oof and Maternity hospital NICU.

Study duration: An eight months period from the first of November 2011-30th of June 2012

Study population: Neonates age (1-28days)

Data collected tool : A designed questionnaire which included full history, clinical examination, and investigations including renal function test.

Outcome of Extreme Low Birth Weight (ELBW) at Limited Resources

Omdurman Maternity Hospital (OMH) Experience

DR. Abdelhalim Mirhgani

Associate Professor of Pediatrics, Consultant Neonatologist, Omdurman Maternity Hospital

This is a retrospective data analysis of all ELBW infants born alive at OMH & admitted to the neonatal unit during the period of January 1st, 2009 – December 31st, 2010.

Our objective is to determine the survival rate of ELBW and investigate the possible predictors of outcome at OMH.

There were 254 ELBW (<1000 gm) infants during the study period. Of those 29 infants survived (11.4%). Survival rate has increased from 9% in 2009 to 14% in 2010. Survival rate for babies < 800 gm was 11%, and has increased from 7% in 2009 to 17% in 2010. Male infants were 118(46%) and females were 136(54%). The survival rate was 4.7% for male infants compared to 6.7% for females. 30% of infants were multiples and 70% were singletons. Survival was 3.1% for the multiples compared to 8.3% for the singletons. 23.6% of infants were cesarean section deliveries and 76.4% were vaginal deliveries. Survival rate was 3.9% for the cesarean and 7.5% for the vaginal delivery. Most deaths (96%) occurred in first week of life. Of these 44% occurred during the first 48 hours.

Conclusion:

Our survival rate is comparable to others with similar & some with better resources. Survival rate has increased in 2010 compared to 2009. No significant difference was noted in survival of males & females, multiples & singletons or for cesarean & vaginal deliveries.

PREVALENCE AND SHORT-TERM OUTCOMES OF ACUTE KIDNEY INJURY IN TERM NEONATES WITH PERINATAL ASPHYXIA AT THE KENYATTA NATIONAL HOSPITAL NEWBORN UNIT

Alaro D, Musoke R, Bashir A, Wainaina L

Department of Paediatrics and Child Health, University of Nairobi, Nairobi.

Background

The kidney is the most damaged organ in asphyxiated full-term infants. The severity of its damage is correlated with the severity of neurological damage. Africans develop severe forms of kidney disease with poorer outcome. We determined the prevalence and short term outcomes of perinatal asphyxia-associated acute kidney injury (AKI).

Methods

We conducted a prospective cohort study including 60 full-term neonates admitted at the Kenyatta National Hospital newborn unit in Nairobi and suffering from Hypoxic Ischaemic Encephalopathy (HIE) from 1st June 2012 to 30th November 2012. AKI was defined by a level of creatinine above 133 $\mu\text{mol/l}$ on day 3 of life. Neurologic examination was determined daily up till day 7 of life according to Sarnat classification.

Results

During the study period, 60 full-term neonates were admitted with perinatal asphyxia. AKI involved 7 neonates (11.7 %) of whom 14% had HIE I, 43% HIE II and 43% HIE III. There was a 15 fold increase risk of developing AKI in HIE III compared to HIE I. By day 7 of life, the outcomes of the neonates with AKI versus those without AKI were: discharged 14.3% versus 55%; died 71.4% versus 9%; remained admitted 14.3% versus 36%. There was a 24 fold increased risk of death in AKI. Day 4 of life was the median day of death.

Conclusions 1 out of every 8 neonates with moderate and severe perinatal asphyxia is likely to develop AKI with a subsequent high mortality rate of 71.4%. Clinicians should therefore endeavor to diagnose AKI and institute relevant measures from day 3 of life.

Evidence Based Diagnosis in Neonatology

Dr. Zakariya Al-Salam, SBP, ABP, JBP, FRCPCH(UK), MSc

Consultant and Head, Neonatal Medicine
Prince Sultan Military Medical City

Probably, the most important aspect of our management in neonatal ICU is diagnosis. This is especially apparent when we deal with manifestations of diseases that are not specific and may have devastating adverse outcome if not diagnosed and treated on time. One very good example is neonatal sepsis where a neonate might present with any non-specific systemic signs and outcome could be even death if not treated early enough in the course of the disease. During the talk, studies of neonatal sepsis diagnosis will be used as an example while explaining some concepts of evidence based diagnosis.

Evidence based practice does not only emphasise on the therapeutic aspect of our management but also include a variety of aspects and concepts of critical thinking and systematic approach where a practitioner should know what to do (know the evidence) and practice what is known (apply the evidence) and know what has been done (re-evaluate). It is a practice that relies on the best available evidence to make the best decision for patient care and outcome.

For various reasons, evidence based diagnosis is not thought of as crucial as its therapeutic counterpart of EBM. Therefore, during this talk some concepts related to evidence based diagnosis will be emphasised. This will include: a) why do we need to perform a diagnostic test, b) gold standard test, c) pre and post test probability; d) sensitivity, specificity and likelihood ratios; and e) caution about the use of predictive values. If time allowed, over-diagnosis and lead time bias will be presented as well.

Finally, accurate diagnosis is very important part of our practice. It has to be based on the best available evidence and put in conjunction with patients values and preferences and our limited resources in order to improve patient outcomes.

HELPING BABIES BREATHE (HBB) SUDAN, WHERE ARE WE?

DR Abdelmoniem Mohamed Hamid, MBBS, MRCPCH (UK)

Associate Professor, Alneeelein University

Helping Babies Breathe (HBB) project, a basic neonatal resuscitation training for Birth Attendants in resource limited countries, is initiated by the American Academy of Paediatrics (AAP) in 2010. It has been implemented in Sudan on 15th January 2013, and the main objective is: to reduce neonatal mortality rate (NMR) estimated in Sudan as 35 per 1000 newborn (2010). The initiative was strongly supported by University college of Cork, Ireland, AAP, Sudan Federal MOH and Sudan Neonatal and Paediatric Associations. Two facilitators/trainers courses were organized at the (CPDC) in Khartoum 15-18th January 2013, lead by 7 Master Trainers from USA, Ireland and Sudan. 3 candidates (one Paediatrician & 2 Midwives/ Tutors) were chosen to represent each of 22 training centres distributed over the country's 17 states. 13 more candidates from the capital were included making a total of 85 candidates. After the course, all representatives returned back to their states to start provider courses. These courses started first in Gazira, on 27th January 2013, followed by North Kordofan, North Darfur, Kasala and Gedarif states. Total number of midwives trained till August 2013 was 239. Though HBB has become an important milestone in the care of newborns in Sudan, yet it has been faced by many challenges. It is moving, but slowly. More Trainers are needed, to speed up the training process. For this reason two more TOT courses were organized at Khartoum in July 2013, and 46 more midwives were trained, making a total of 131 facilitators in Sudan. Extra equipment is also needed for training, and their import takes long time. More funding is required to cover training for all the village midwives in Sudan (about 14000) over 3-4 yrs period. Though HBB has been included in Midwifery schools curriculum, and that will reduce the need for future HBB training for graduates, yet a structured training program at the schools, as well as sufficient equipment, are required.

Neuroprotection for Perinatal HIE – Therapeutic Hypothermia and beyond

Dr. Sajjad ur Rahman

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Towards Optimal Delivery and newborn Care Services in Khartoum state governmental hospital

Mohamed Khalil Ali

Department of Paediatric, IUA, Khartoum

Early neonatal deaths that occur during the perinatal period, have obstetric origins, similar to those leading to stillbirths. Worldwide, there are over 6.3 million perinatal deaths a year, almost all of which occur in developing countries. One third of stillbirths take place during delivery, and they are largely avoidable. Intrapartum deaths - those occurring during delivery- are closely linked to place of, and care at delivery. More than 80% of deliveries in Sudan occur at home and less than half of them (49.2%) are attended by a qualified health professional. On the other hand for those who seek to deliver at government hospital, they are not offered the basic and emergency quality obstetric and neonatal care. This is mainly due to lack of adequate material resources (disposables, drugs and equipment), basic staff, as well as basic infrastructure like furniture, hand washing facilities, toilets, waiting areas and laboratory services.

Objective: To assess the readiness of the delivery rooms in governmental hospital of Khartoum state (Infrastructure, Equipment, and Disposable, Drugs, Staff and Infection control) to provide standard care to delivering mothers and their newborns.

Study design: A cross sectional multisite study (survey).

Study area: The study area is Khartoum state which is divided geographically into three towns and seven administrative localities.

Study duration: two month from 1/3/2013 – 1.5.2013

Study population and study subjects: Delivery rooms in all Khartoum state governmental hospitals

Sampling technique: Total coverage

Data collection tools: Structured Checklist

The total number of governmental hospitals in Khartoum state is 48 hospitals. 50% (24 hospitals) of them have delivery services and providing health care to both mother and neonates. The total number of delivery room in all these 24 hospitals is 34 and accommodating 56 delivery beds. Only 37.5% of the surveyed hospitals have emergency trolley and almost two third of them are deficient in the standard emergency and essential drugs.

There is shortage in basic neonatal resuscitation equipment; Ambu bags were available in 54% of hospital most of them were not functioning. Laryngoscopes, ETT and umbilical catheters are not available in all delivery rooms. Incubators are found in 12% and thermometers in 58%. Overhead heaters were not found in 83%. CTG was found in 33% of the facilities, glucometer in 16%, cardiorespiratory monitor in only 8% of the hospitals, vacuum extractor is found in 58%. On top of that, most of the mentioned equipment is not functioning

83 % of the hospitals had no dirty utility room, and the tools for cleaning were kept either on the corridors or in the bath rooms. 79% of visited hospitals have no special waiting area for co-patients. 25% of the hospitals have no Emergency transportation and 75% no communication facilities (land phone and designated mobile).

Only 54% of hospitals have separate doctor's on-call room attached to the delivery area.

Fresh disposable urinary catheters were not available in 67% of labour rooms and sometimes were reused after being washed with chlorine and normal saline. Sterilization mainly through oven use, mini autoclave found in 25% labour rooms, and only one hospital was using inclinometer as part of waste management. No hospital has infection control committee & none using chlorohexidine as disinfectant. Infection control committee is not available in all hospitals and policy and procedure is not part of the practice in all facilities in Khartoum state government hospitals.

In 96% of the surveyed hospitals the midwives is the sole responsible staff that receives and deals with neonates.

The study concluded that there is alarming shortage in infra structures, drugs, disposables, neonatal essential and resuscitation equipment, and a lot is needed to be done to improve this devastating situation.

Neonatal Care Service In Port Sudan / Red Sea State : The Rocky Hike.

Suhair A O

The Red Sea State in the east of Sudan has a surface area of 218.887 Km² and a population of 1.396.110 , 5.954 (42.6 %) are females . It has 11 hospitals , 9 of them are in Port Sudan ,the capital and the growing city of tourism in the Arabic world . None of them is providing a standardized neonatal care. The best neonatal unit is in SPCH , belonging to the SPC. In this hospital there is 3 trained resident Drs and 6 trained staff sisters, working in a relatively good - resourced unit but we are able to provide only an intermediate level of care (level 2 B according to AAP, check it on: <http://pediatric.aappublications.org/content/114/5/1341.full.html>). The unit received 304 neonate in a 2 years period (11.3% of total delivery), preterm infants (<= 37 weeks) constituted 76 (25%) of total admission and neonatal sepsis is the predominant cause of death (52.3%).

With training of separate resident doctors and nursing staff to work in the neonatal units only and integration and joint planning with obstetricians, much mortalities were avoided, and the application of standardized policies, even in poor resourced units like in Sudan, can decrease the mortality and improve the outcome.

Neonatal care in Sudan is only slowly advancing and the national mortality is still high, yet we have to struggle to save lives, and get the health authority commitment.

Neonatal Seizures, Diagnosis and Management

Ahmed Raouf, MD

ARRC, Cairo, President of ESCNP

EB Member of ICNA

Egypt

Neonatal seizures are abnormal electrical discharges in the CNS of neonates usually manifesting as stereotyped muscular activity or autonomic changes.

The immature brain seems more prone to seizures than the more mature brain. Seizures are more common in the neonatal period than during any other time throughout life. The incidence of seizures in infants born at term is 1.5 - 3.0 per 1000 live births; the incidence is even higher in preterm infants, ranging from 50 - 150 per 1000 live births (Ronit M Pressler ,2005. NSE)

Neonatal seizures often are a manifestation of significant neurologic disease and a major predictor of adverse neurologic outcome in the newborn. The clinical features and electroencephalographic (EEG) characteristics of neonatal seizures differ considerably from those associated with epilepsy in older infants and children, an observation that reflects the immature stage of development of the newborn brain. Another major difference relates to the fact that neonatal seizures rarely are idiopathic. Prompt diagnosis, investigation to establish the underlying etiology, and rapid intervention are essential to minimize the possibility of associated cardiorespiratory instability and to correct treatable causes. Furthermore, experimental data suggest that ongoing or prolonged seizures may cause additional cerebral injury and have detrimental long-term effects.

This presentation is going to show video cases with differentiation of most common neonatal epileptic disorders with non epileptic cases.

The Prevalence and Risk Factors of Retinopathy of Prematurity among Preterm Babies Admitted to Soba Neonatal Intensive Care Unit. January 2012- January 2013

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1 Faculty of Medicine University of Khartoum

2 Oumdurman Maternity Hospital

This is a prospective hospital based study conducted in Soba University Hospital (SUH) Neonatal Intensive Care Unit (NICU), January 2012 to January 2013, to determine the prevalence and risk factors of retinopathy of prematurity (ROP) among preterm babies admitted to Soba NICU and to assess the outcome of those babies.

Ninety-two neonates with gestational age less than 34 weeks at birth were included in the study. 33 of them were males and 59 were females. All of them were admitted to the NICU due to prematurity.

Data of all the included preterm was collected in a structured questionnaire.

Thirty-four infants (37%) developed ROP in one or both eyes; 12 (35.3%) of them developed stage 3 and underwent laser therapy, 2 of them had aggressive posterior form which was treated with Evastin injection. 7 (20.3%) neonates diagnosed as stage 2, and 13 (37.7%) had stage 1.

Statically analysis showed that there was a significant relationship between ROP and gestational age, birth weight (BW), oxygen therapy, sepsis, and blood transfusion, ($p < 0.000$). No significant relationship was found between the occurrence of ROP and sex of the baby, respiratory distress syndrome (RDS), hyperbilirubinaemia, intraventricular haemorrhage (IVH) and necrotizing enterocolitis (NEC), $p \geq 0.000$ in all of them.

The prevalence of ROP in this study was 37%. Low BW, low GA, oxygen therapy, and blood transfusion were all significant risk factors for ROP.

ROP should be highlighted in Sudan, and screening program is recommended to be adopted for all premature babies.

Non Invasive Ventilation

Dr.SajjadurRahman*

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Women's Hospital Hamad Medical Corporation Doha State of Qatar

Sudan, like other developing countries, faces a huge challenge of reducing its neonatal mortality at a time when health care investment is meager and the cost of newborn care very high. Invasive respiratory support, using endotracheal intubation and mechanical ventilation, has been the corner stone of newborn care worldwide. This mode of treatment has, without any doubt, played a pivotal role in increasing newborn survival but at a cost of very high short and long term respiratory and neurological morbidity. Over the last decade, there has been an increasing trend to use non-invasive respiratory support, which, along with the overall changes in the obstetric and neonatal care of very sick and preterm babies, has proven to be as effective as the invasive respiratory support. The noninvasive respiratory support is very cost effective; hence, resource restricted countries like Sudan, can tremendously improve their neonatal survival by designing national guidelines to use various modes of noninvasive ventilation.

CPAP and NIPPV are the two most commonly used modes of noninvasive ventilation. Both have proven to be safe and effective even in extremely low birth weight babies. Due to wide spread use of these devices in NICU's worldwide, the total number of ventilator days, and hence the cost of intensive care, has been drastically reduced. The incidence bronchopulmonary dysplasia (BPD) has been reduced and it has now become a much milder iatrogenic disease with improved long term outcomes. The incidence and severity of long term neurological, developmental and other outcomes e.g. have significantly improved.

The nursing care of the baby is much easier as compared to CPAP. With better and expert use of HFNC, the use of CPAP in neonatal intensive care units has been tremendously reduced. HFNC is a very low cost device which can be assembled locally in resource restricted countries. To address the challenge of neonatal mortality in developing countries, going noninvasive in respiratory support should be the future strategy of newborn care at a national level.

Outcome of isolated hydronephrosis diagnosed by antenatal ultrasound during the first year of life.

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^{1,3}Neonatal Intensive care Unit, King Fahad Medical City, Riyadh, Kingdom of Saudi Arabia.

²Women specialized Hospital, Fetal Medicine Unit, King Fahad Medical City, Riyadh, Kingdom of Saudi Arabia.

Background: Antenatal ultrasound (US) detects 1% to 3% of fetal anomalies during pregnancies. About 20% of these abnormalities are related to the genitourinary system with Although Hydronephrosis is the most common is the most common among these anomalies, the clinical outcome of these anomalies is not well known.

Aims and Objective: This study describes the clinical outcomes of all cases of antenatally diagnosed hydronephrosis in the first year of life in a tertiary center in Kingdom of Saudi Arabia .

Patients and Methods: This is a retrospective study that included all cases of isolated hydronephrosis detected by antenatal ultrasound from August 2005 until February 2011. Hydronephrosis was classified based on standard criteria into mild, moderate or severe. Cases associated with major other congenital anomalies were excluded. All patients were followed up for one year and outcome available on these cases were analyzed and presented at 3,6,12 months. Statistical analyses were performed using the SPSS and chi-square test. Results: A total of 105 case (83 males and 22 females) were included the median gestational age at diagnosis was 34 weeks. Of 105 cases, 20 (19.1%) were found to be free of hydronephrosis; 39 (37.1%) had mild; 29 (27.6%) moderate; 17 (16.2%) severe hydronephrosis during postnatal US; 50.4% of hydronephrosis cases improved in their clinical presentation while 13.3% of cases showed deterioration. Almost half of all case (52 cases) had hydronephrosis till the first year of life without effect on renal function. There was no correlation between the severity of hydronephrosis during first post-natal ultrasound and amniotic fluid index, bladder wall thickness, finding in micturation cystourithrogram, incidence of urinary tract infection or serum creatinine levels .

Conclusion: Antenatal and postnatal US are sensitive tool for detecting hydronephrosis and important for counseling respectively. Missed cases may be picked up by serial US few months post-delivery. Although newborns with antenatal hydronephrosis are at greater risk for renal pathology but outcome is good after intervention. No correlation existed between AFI, bladder wall thickness, MCUG, incidence of UTI or creatinine levels and the severity of hydronephrosis suggesting these investigations may have no value in the diagnosis or management of hydronephrosis, with the exception of MCUG, but for confirmation a larger study is needed.

Clinical pattern of neonatal admission in Mohamed alamen hamed hospital durig last six month.

Dr. wedad Elshikh

Dr. Mona Alamen

Neonatal mortality and morbidity remain amajor problem in many devolving countries most predisposing factors are preventable.

The objective of this study is to identify the clinical pattern of new born babies admitted to mohamed alamen hamed hospital and their out com.

The study was retrospective ,descriptive hospital base study.conducted in period from firstn of february to 31 of july 2010. Where 480 babies were admitted.

Male was (61.3%) most of patient were term(93.10%) weight 2.5—4 kg(75.8%) age betwene 1---7 days (57.70%) ,majority had anti natal visit (71.00%) that end with vaginal delivery(90.83%) at home (60.60%) and most of them offer their nutrition through breast feeding (67.00%) .

The most common cause was infection(65.80%) second is hyperbilirubinemia(16%) while (5.40%) were convultion and prematurity account for (4.40%),congital mal formation(1.70%) respiratry distres syndrom(1.50%) and birth asphxia(0.60%).

Out come of the study was(86%) discharge, (6%) left against medical advice, (2%) referred to other hospital and (6.5%) died with different clinical scenario. Most of them died due to sepsis(46.70%), prematurity account for(26.70%) while (20.00%) died due to respiratry ditress syndrom and the least cause of death is hyper biliribenemia(6.70%).

In conclusion the most common cause of neonatal morbidity were neonatal infection and neonatal hyperbilirubinemia.. and the most common causes of mortality were infection and prematurity.

The Golden Hour

Dr. Zakariya Al-Salam, SBP, ABP, JBP, FRCPCH(UK), MSc

Consultant and Head, Neonatal Medicine
Prince Sultan Military Medical City
Riyadh-Saudi Arabia

Newborn infants pass through an amazing journey; from the in utero to the ex utero world. This journey is usually an eventful and goes smoothly. However, it might be complicated by obnoxious events which may result in death or serious morbidities that could be life-long. Newborn Resuscitation contains many recommendations that are very vital to assist those infants. In addition, post-resuscitation period is also very critical where many interventions could either improve or worsen their condition. During this talk, evidence based practices that focus on the first hour of life will be presented.

Temperature stability and induced total body hypothermia have been shown to improve outcomes specially of newborns with hypoxic ischemic encephalopathy. In clinical trials, hypothermia was used in the first six hours of life but the earlier is the better. Plastic wrap using clean home made transparent plastic wrap can be used to maintain body temperature and provide good visual assessment.

Infants are born with relative hypoxia. It is safe to resuscitate them with room air or lower than 100% oxygen while monitoring their percutaneous oxygen saturation using pulse oximetry. This provides access to heart rate monitoring that assists in the management and monitoring of response. ECG monitoring is simple and fast and can be provided instantly in the labor room.

Accepted oxygen saturation for premature infants is still an area of debate and some one needs to be cautious about which range of saturation should adopt. This should be supplemented with cautious use of manual and mechanical ventilation. Too large tidal volume can be very harmful to the lungs.

During the drama of resuscitation, parents and specially the mother can be forgotten to address and counsel. This period of time is very important for bonding. A brief explanation should be provided pending detailed interview in the nearest time possible.

The team work is very vital to the success of the management of those infants. It has to be organized and led successfully. Debriefing with the purpose of quality improvement is recommended.

In conclusion, the first postnatal hour of life provide a window for useful interventions. Disorganized/uncareful approach during this period may result in deleterious effect. Systematic evidence based practices are available and highly recommended during this sensitive period of the newborn infant.



ORAL SESSION

THERAPEUTIC HYPOTHERMIA FOR NEONATAL HYPOXIC-ISCH-EMIC ENCEPHALOPATHY (HIE)

DR. MUSTAFA TARIQ

KING FAHD MILITARY MEDICAL COMPLEX - DHAHRAN, KSA

Educational Objectives:

- To understand the complex interaction between the pathophysiology of hypoxic-ischemic brain injury and protective mechanisms of hypothermia.
- Critically evaluate existing evidence related to Therapeutic Hypothermia (TH)
- To explore issues for integration of new technology into clinical practice.

Key Note Lecture

Perinatal HIE, a subset of neonatal encephalopathy addresses clinically relevant topic in Neonatal-Perinatal Medicine, it is a global burden worldwide, 4 million newborns are affected every year of which 1 million die and additional 1 million have significant disability. Until recently there were no proven treatments, but 6 large trials have confirmed an association between 72 hours TH and a significant reduction in death and disability at an 18-month follow-up.

The hypoxic brain insult results in impaired cerebral blood flow (CBF) as a consequence of a substantial interruption of maternal and/or fetal placental blood flow and gas exchange this creates an imbalance in metabolic demand and cellular energy supply resulting in disruption of critical cellular functions and the activation of excitatory neurotransmitters which leading to neuronal injury and programmed cell death.

Hypothermia reduces cerebral metabolism, stabilizes the blood-brain barrier, and prevents seizures. In addition, hypothermia inhibits glutamate and nitric oxide (NO) releases, reduces apoptosis, and suppresses microglia activation. TH was confirmed to be associated with a reduced risk of death or disability at 18 months and to also reduce individual outcomes of mortality, severe cerebral palsy, cognitive and psychomotor delay. At present, hypothermia is the only intervention shown to improve neurologic outcome in full-term newborn babies after HIE for these reasons TH was adapted by many Neonatal units around the globe to be standard of care intervention

Persistent Hyperinsulinimic Hypoglycaemia of Infancy (PHHI)

Dr Omer Bashir- KSA

Abstract 1:

Congenital Hyperinsulinism (CHI) or Persistent Hyperinsulinimic Hypoglycaemia of Infancy (PHHI) is a common cause of recurrent severe hypoglycaemia in early infancy. In this overview the epidemiology, aetiology, genetic mutations and diagnostic approach will be discussed. A family with rare gene mutation (HADH) will be presented as example of CHI.

Abstract 2:

Overview of Autoimmune Polyglandular Syndrome (APS) to raise the awareness of APS. The presentation starts with a short case of sickle cell anaemia and hypocalcaemia. Then, covers the definition, epidemiology, classifications and genetic background of APS. Different endocrine and non-endocrine clinical course manifestations, management, and prognosis of APS.

Association between CC16 Polymorphism and Bronchial Asthma

Nisreen M.El Abiad¹, Hisham Waheed², William M. Morcos², Samar M. Salem², and Hala Ataa³, Oifat G. Shaker⁴

Departments of: ¹Pediatric, ⁴Medical Biochemistry, Faculty of Medicine, Cairo University, ²Child Health, NRC. and ³Al Galaa Teaching Hospital, Cairo, Egypt.
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Abstract: Background: Asthma is one of the most common chronic pediatric diseases, and is responsible for a significant proportion of school day losses. Asthma is influenced by genetic and environmental factors. The inheritance pattern of asthma demonstrates that it is a complex genetic disorder. Clara cell secretory protein (CC16) is an ideal candidate for involvement in an inherited predisposition to asthma owing to its chromosomal location, nature and function. Objective: to screen exons of CC16 gene on chromosome 11 for detection of sequence variation in families to determine whether these allelic polymorphism are associated with clinical asthma or not and to detect the relation between type of genetic polymorphism and asthma severity. Patients and Methods: This study included 20 stable asthmatic children with 21 of their atopic family members, also 11 healthy non atopic subjects were included as control group, all cases were subjected to genetic study methods including pedigree construction, PCR and detection of allelic polymorphism. Results: Significant correlation (90%) between homozygous CC16, 38 (AA) (75%) and 38 (AG) (15%) allelic polymorphism and increased prevalence of asthma was detected in families but there was no correlation between CC16 allelic polymorphism and asthma severity. Conclusion: There was a correlation between CC16 allelic polymorphism and increased prevalence of asthma and this gene is present also in normal subjects who are not triggered by environmental factors.

[Nisreen M.El Abiad, Hisham Waheed, William M. Morcos, Samar M. Salem, and Hala Ataa, Oifat G. Shaker. Association between CC16 Polymorphism and Bronchial Asthma. Life Science Journal 2012; 9(1):265-270]. (ISSN: 1545-1003). <http://www.lifesciencesite.com> 36

Key words: CC16- Gene polymorphism – PCR- Asthma

Use of hypothermia in asphyxiated infant in Sudan

Haytham F. Salih MRCPCH ,DCH

Etimad Shams Eldinn, Aala A. Qayoom, Henda Desouge , Suha A Malek , Afra A Rahman , Dalal Yaseen, Soaad A Raheem , Maram Ahmed Elnaeem Rageya
AbdAllah, Najat Basheer
neonatology department Dream maternity hospital , Khartoum , Sudan

A term baby was delivered with severe birth asphyxia and required 10 minutes active resuscitation, he was quite sick with high risk of mortality and hypoxia ischemic encephalopathy. He convulsed after 4 hours, we decided to induce Controlled therapeutic hypothermia since it is the only available treatment for such case. We used a split unit air conditioner and a ceiling fan in a separate room keeping the core temperature of the baby between 33--35 Celsius, the baby was closely monitored and potential side effects of hypothermia were looked after. And dealt with accordingly. The convulsion settled with continuous midazolam infusion which tapered after 48 hours. The baby remained stable and after 72 hours a gradual rewarming to 36.5 Celsius in 12 hours was achieved.

The baby showed a remarkable recovery and started direct breast feeding in the 6th day with no seizure and mild degree of hypertonia in his upper limbs. He was referred to a pediatric Neurologist for evaluation and follow up.

The pediatric neurologist evaluation after 2 weeks was impressive by having a normal CT brain study and seizure controlled by a very low dose of single anticonvulsant medication which stopped after 3 months after birth. The baby showed a normal subsequent head circumference and normal milestone development up to his 3rd month of life and left with a jittery movement in his upper limbs.

This is the first reported case in Sudan using therapeutic hypothermia to treat severe birth asphyxia with controlled cooling system in Low Resourced Settings.

The aim behind our reporting is that, to open the space for more wide discussion and participation in the use of therapeutic hypothermia as a worldwide agreed treatment for severe birth asphyxia, considering the number of such victims in our hospitals and the very limited resources in the neonatology services in Sudan

Pediatric Cardiology Workshop

To pediatricians /registrars

please see attached announcement

Pediatric Cardiology and Rheumatic Heart Disease Workshop

*Date: **Wednesday Nov 6/2013*

*Time: **9-13 Hrs*

*Venue: *Sudan Heart Centre, Ground Lecture Hall

For Registration: Please call "Amal" @ 0912455414

Workshop organizer: Prof Sulafa Khalid M Ali

*Course Objectives: *

By the end of the course candidates should be able to:

1. Understand the concepts of *RHD Control Program*, commit themselves in its advocacy.
2. Recognize symptoms, signs and treatment of bacterial pharyngitis (*primary prevention* of acute rheumatic fever (ARF)).
3. Recognize symptoms, signs and treatment of ARF (*secondary prevention*).
4. Know the common presentations and approach to children with heart disease with emphasis on Rheumatic Heart Disease.
5. Know the basics of pediatric ECG interpretation.

Work shop on Nephrology

Dr Safa Abdelhameed, Dr Yasir, Dr Rashid Ellidir.

- @ Hypertension .
- @ Acute kidney injury.
- @ Nephrotic & Nephritic syndrome.
- @ Renal failure.
- @ Demonstrations : A. Dialysis .
B. Central line catheter.



Udanese Society of Neonatologists

First Sudanese Neonatology Conference

WORKSHOP PROGRAM (6 - 7 November 2013)

	Topic	Time	Place	Participants	Fees
Day1/ Tuesday 5/11	Fundamental Care of Preterm Infant	8:30am - 4:00pm	Moh. Elamen Hamid Hospital	Registrars + Sisters	75 SDG
	HBB	8:30am - 4:00pm	CPD	Paediatricians (different state)	Free
Day2/ Wednesday 6/11	Basic Neonatal Care	8:30am - 4:00pm	مستشفى سويا الجامعي	Paediatricians (different state)	100 SDG
Day3 / Thursday 7/11	Hypothermia	8:30am - 1:30pm	مستشفى سويا الجامعي	Paediatricians + Registrars	100 SDG
Day4 / Saturday 9/11	Infection Control + Nursing Skills	8:30am - 4:00pm	مستشفى جعفر بن عوف	Sisters	50 SDG

Pediatric Cardiology and Rheumatic Heart Disease Workshop

Course Objectives:

By the end of the course candidates should be able to:

1. Know the common presentations and approach to children with heart disease with emphasis on Rheumatic Heart Disease.
2. Know the basics of pediatric ECG interpretation.
3. Understand the concepts of ASAP program, commit themselves in its advocacy.
4. Recognize symptoms, signs and treatment of bacterial pharyngitis (primary prevention of acute rheumatic fever (ARF)).
5. Recognize symptoms, signs and treatment of ARF (secondary prevention).

Course Format:

- Interactive sessions, duration: 4.5 hours (9 -13:30).
- Pre and post questionnaires
- At the end of the course the candidate will be given a certificate of attendance and listed as a Member of RHD Control Team.

Course Lectures

9:00 – 9:15 am

ASAP Pre-questionnaire

9:15- 9:45 am

ASAP Overview

9:45- 10:15

Diagnosis and treatment of Streptococcal pharyngitis (Primary Prevention)

10:15 -10:45

Diagnosis and treatment of Acute Rheumatic Fever (secondary prevention).

10:45-11:00

ASAP Post Questionnaire

11:00 -11:15

Break

11:15-12:30

Common presentations and approach to children with heart disease

12:40-13:30

Basics of Pediatric ECG

The Sudan Cardiac Center. On Wednesday 6 Nov 2013

Research Methodology: A Pre-Conference Workshop

Workshop's name and code: Research Methodology, RM

Module duration: 2 days

Credit hours: Not applicable

Target group: Postgraduate medical students and health professionals

Prerequisite: None

Module coordinator: Dr. Abdel Moniem Mukhtar (DrPH, MPH, BDS)

Module facilitators: Dr. Hind Amin (MPH, BDS), Dr. Maisa Elfadul (MPH, BDS)

Rationale

This workshop helps the participants to design, conduct and analyze a focused research of high priority.

Learning outcomes

By the end of this module the student should be able to:

1. Select a research topic of high priority
2. Precisely formulate study objectives and research questions
3. Systematically review the literature
4. Select an adequate study design of high quality
5. Identify and select valid, reliable and feasible data collection tools
6. Conduct a pilot study
7. Manage and analyze the data
8. Report on methods and results

Module contents

1. Research prioritization
2. Problem specification
3. Systematic literature review
4. Study designs
5. Data collection tools
6. Pilot study
7. Data management and analysis
8. Report writing

Time Table*

No	Time	Activity
Day 1: Introduction to Research Methodology		
1.	09:00__09:30	Research Methodology: Introduction to the Workshop
2.	09:30__11:00	Research Prioritization and Problem Specification
Break		
3.	11:45__13:00	Systematic Literature Review
Prayers		
4.	13:30__15:00	Study Designs: Observational Studies
Day 2: Study Designs and Analysis		
1.	09:00__10:30	Study Designs: Interventional Studies
Break		
2.	11:15__13:00	Data Collection, Pilot Study and Data Management
Prayers		
3.	13:30__15:00	Study Analysis: Descriptive Statistics, Measures of Association, Stratification and Regression
4.	15:00__16:00	Reporting guidelines

* Changes and alterations reserved

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