

# ORAL COMMUNICATION

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## ORAL SESSION-4

Title **PULMONARY TUBERCULOSIS IN HIV-INFECTION: THE RELATIONSHIP OF THE RADIOGRAPHIC APPEARANCES TO CD4 T-LYMPHOCYTES COUNT**

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**Background** Pulmonary tuberculosis (TB) in the AIDS population has a variable radiographic presentation. The association between the radiographic presentation of pulmonary TB and CD4 T-lymphocytes count in the HIV-infected patient is investigated in order to provide an empirical approach for early diagnosis, treatment, and isolation of infected subjects.

**Methodology** A retrospective analysis of chest radiographic pattern, CD4 T-lymphocytes count and clinical history of 80 subjects from Hospital Kota Bharu, was performed. Radiographs were evaluated for the presence of either a pattern characteristic of postprimary TB (typical pattern) or a pattern uncharacteristic of postprimary infection (atypical pattern).

**Results** 67 (83.8%) subjects had atypical pattern. 13 (16.2%) subjects had typical postprimary pattern. Of those atypical pattern, 18 (22.5%) subjects demonstrated normal chest radiographs, 36 (45%) subjects showed parenchymal opacities at the middle and/or lower zones of the lungs, 30 (37.5%) subjects had intrathoracic lymphadenopathy, 18 (22.5%) subjects revealed pleural effusion and 6 (7.5%) subjects had miliary TB. Subjects with CD4 T-lymphocytes count of less than 200 cells/ul, were found more likely to produce (a) atypical pattern, (b) normal chest radiograph (c) middle and/or lower zones parenchymal opacities and (d) lymphadenopathy. The mean CD4 T-lymphocytes count for subjects presented with the above four findings were significantly lower, compared to their counterpart, who presented with typical pattern, abnormal chest radiograph, upper zone opacities and lymphadenopathy.

**Conclusion** An AIDS patient who has CD4 T-lymphocytes count less than 200 cells/ul are more likely to present with atypical radiographic pattern of pulmonary tuberculosis.

Title **NOSOCOMIAL SEPSIS IN NEONATES ADMITTED TO THE Special Care Nursery (SCN) of Hospital Kota Bharu (HKB)**

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**Introduction** Neonatal sepsis can be divided into early onset, which is considered to be maternally acquired, and late onset, which is nosocomial in origin. Nosocomial sepsis is an important problem in neonatal nurseries and intensive care units. Studies from other nurseries in Malaysia have shown a high incidence and mortality from nosocomial sepsis.

**Objectives** The purpose of this study was to describe the incidence, aetiology and outcome of nosocomial bacterial sepsis in neonates admitted to the SCN of HKB and to describe the occurrence of nosocomial infection due to multiresistant organisms.

**Methodology** This prospective descriptive study was conducted from 1<sup>st</sup> February 1998 to 31<sup>st</sup> July 1998. In neonates suspected to have nosocomial sepsis, blood cultures were taken and the platelet count, total white cell count and C reactive protein level were determined. The empirical antibiotics given to the infant, the duration, and any changes made after culture results became available were recorded.

**Results** The nosocomial sepsis rate was 4.8 episodes per 100 babies admitted and the mortality rate was 24%. Multiresistant gram negative bacilli, MRSA and methicillin resistant coagulase negative staphylococci caused 46% of sepsis episodes.

**Conclusion** The high incidence and mortality of nosocomial sepsis suggest that there is a need for an effective infection control program in the SCN.

Title **PATTERN OF NOSOCOMIAL INFECTION IN THE NEONATAL INTENSIVE CARE UNIT (NICU)**

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**Introduction** Nosocomial infection is a common problem in NICU and a knowledge of the pattern of nosocomial infection can contribute to the development of antibiotic policies in the unit.

**Objective** To compare the incidence and clinical characteristics of nosocomial infection in Neonatal Intensive Care Units (NICU) of Hospital Kuala Terengganu (HKT) and Hospital Universiti Sains Malaysia (HUSM).

**Methodology** Neonates who had clinical signs of sepsis and positive blood cultures, 48 hours after admission to NICU, from 1<sup>st</sup> January to 31<sup>st</sup> December 1998, in HKT and HUSM were retrospectively studied.

**Results** Among neonates admitted to NICU, 30 (5.4%) in HKT and 65 (3.6%) in HUSM had nosocomial infection ( $p = 0.07$ ). The mean duration of hospitalisation was shorter (HUSM 37 days, HKT 49 days;  $p = 0.02$ ), and number of neonates with predisposing factors for infection (HUSM 100%, HKT 73.3%;  $p < 0.05$ ) higher in HUSM compared with HKT. There were no differences in gestation, mean age at onset of infection and mortality between both hospitals. The most common organism isolated from the blood in HKT was *Klebsiella pneumoniae* (33.3%) and in HUSM *Klebsiella aerogenes* (24.6%). Half of *Klebsiella pneumoniae* isolates were resistant to cephalosporins and aminoglycosides and a similar number of *Klebsiella aerogenes* isolates were resistant to piperacillin and aminoglycosides.

**Conclusion** Nosocomial infection is a common problem in both hospitals. Except for more frequent predisposing factors for infection in HUSM, and a longer duration of hospital stay in HKT, clinical characteristics of neonates with nosocomial infection in both hospitals were similar.

**Title A STUDY ON ADULT FEBRILE NEUTROPENIC PATIENTS : SPECTRUM OF ORGANISMS AND RESPONSE TO EMPIRICAL ANTIBIOTICS**

**Authors** Y.F. Liew, and A.A. Baba

**Institution** Universiti Sains Malaysia

**Introduction** The choice of empirical antibiotic therapy in febrile neutropenic patients should be tailored to local epidemiological data.

**Objectives** This study investigated the spectrum of organisms during the neutropenic period post-chemotherapy in adult patients admitted to Hospital Universiti Sains Malaysia. The response to empirical antibiotics and outcome of each neutropenic episode was assessed.

**Methodology** All consecutive episodes of febrile neutropenia following chemotherapy that occurred in adult patients with haematological malignancies between January 1997 to March 1999 were included. Multiple entries were permitted if they had recovered from their prior episodes of neutropenia for at least 7 days.

**Results** A total of 57 episodes of febrile neutropenia were analysed from 31 patients. Microbiologically documented infections were noted in 24 episodes (42.1%). Majority (76.9%) of organisms isolated was Gram-negative bacteria. The most common organism isolated was *Klebsiella* species (42.3%) followed by *Escherichia coli* (11.5%), *Enterobacter* species (11.5%), *Pseudomonas aeruginosa* (11.5%), *Staphylococcus aureus* (11.5%), *Staphylococcus epidermidis* (7.7%) and *Streptococcus viridans* (3.8%). Among the Gram-negative bacteria isolated from blood culture, the percentage susceptible to both amikacin and piperacillin, ceftazidime and imipenem were 58.8%, 76.5% and 100% respectively. The response rates to amikacin plus piperacillin, ceftazidime and imipenem were 63%, 50% and 83% respectively. Eight patients succumbed to infection during the neutropenic episodes.

**Conclusions** The predominant organisms isolated were Gram-negative bacteria. Increasing resistance to amikacin and piperacillin was noted and regular surveillance is needed.

**Title ULTRASOUND GUIDED CANNULATION OF THE INTERNAL JUGULAR VEIN IN PROBLEM CASES - THE INITIAL YEARS**

**Authors** J. Kamarudin, O. Mahamarowi, A. Anita, and N.M. Nik Abdullah

**Institution** Department of Anaesthesiology, School of Medical Sciences, Universiti Sains Malaysia, Kubang Kerian, Kelantan.

**Introduction** The conventional method of Internal Jugular vein cannulation does not ensure success or absence of complication especially in problem cases like obesity, short neck or patients with bleeding disorder. The use of ultrasound as a method to locate blood vessels for a safe cannulation is an interesting option available for these groups of patients.

**Objectives** The aim of this study was to determine the usefulness of ultrasound guided cannulation of the internal jugular vein in problem cases.

**Methodology** A retrospective study of patients admitted to Intensive Care Unit in Hospital Universiti Sains Malaysia were carried out between 1991 till 1993. Records of these patients were reviewed for indications, results and complications. Patients for cannulation were put to standard positioning and preparation, and the right Internal Jugular vein was located using real time imaging with a 3.5 MHz. Sector transducer connected to SSD500 Aloka ultrasound scanner.

**Results** The total of 32 problem patients requiring Internal Jugular vein cannulation were reviewed. The conventional technique of cannulation had been attempted in all cases prior to ultrasound guided attempts. There were 27 adults (age >12 years, range 16-72 years) and 5 paediatric cases (age <12 years, range 1 week to 7 years) with an equal male and female distribution (16:16). These patients required cannulation for measurement of C.V.P. (n=13), chemotherapy (n=11), haemodialysis (n=6) and T.P.N. (n=2). There was a significant haematoma presence in the neck from previous cannulation attempts in 26 cases (81.2%) and DIVC documented in 6 cases (18.7%). The internal jugular vein was successfully cannulated in all cases, with a single pass insertion in 27 cases (84.3%) and a double pass insertion in 3 cases (9.3%). 2 cases (6.3%) required more than 2 passes. There were no complications noted.

**Conclusion** We believed that ultrasound guidance should be resorted in all cases with previous failure to cannulate the internal jugular vein especially so in patients with D.I.V.C. Ultrasound imaging does provide a greater degree of safety, accuracy and rapidity in high risk cases and is relatively easy to learn.

**Title PREDICTIVE FACTORS OF BACTERIAL MENINGITIS IN CHILDREN**

**Authors** H. Kaur and B.S. Quah

**Institution** Department of Paediatrics, School of Medical Sciences, Universiti Sains Malaysia 16150 Kubang Kerian, Kelantan

**Introduction** Even though most episodes of fever associated with fever in children are benign, bacterial meningitis needs to be considered. When cerebrospinal fluid (CSF) examination is not available, diagnosis is based on clinical examination.

**Objective** To determine the predictive factors for bacterial meningitis.

**Methods** Children aged 3-60 months, admitted from June 1998 to September 1999 in Hospital USM and Hospital Kota Bharu, with the first episode of seizure associated with fever were prospectively studied. Children were considered to have meningitis if the CSF finding or clinical course in the ward was suggestive of meningitis.

**Results** Among 135 children studied, 19 (14%) had meningitis. Clinical features significantly associated with meningitis were age <12 months (OR = 5.7, p = 0.001), unconsciousness between fits (OR = 30.7, p < 0.001), fits noted at casualty (OR = 6.9, p = 0.001), >2 fits at home (OR = 5.6, p = 0.01), and reduced feeding (OR = 6.2, p < 0.001) or activity at home (OR=5.4, p = 0.001). Physical signs significantly associated with meningitis were reduced conscious level on admission (OR=81.4, p <0.001), neck stiffness (OR = 51.3, p < 0.001), abnormal anterior fontanel tension (OR=49.1, p < 0.001), positive Kernig's sign (OR = 21.6, p = 0.01), and abnormal muscle tone (OR=14.0, p < 0.001). Four factors, reduced level of consciousness, abnormal anterior fontanel tension, neck stiffness and unconscious state between fits, used in combination had 100% sensitivity and 71.5% specificity.

**Conclusion** Using these clinical features all children with meningitis were identified, but one-third of children without meningitis will be unnecessarily treated.

**Title CRITICAL ASSESSMENT OF EARLY OUTCOME OF CLEFT SURGERY**

**Authors** Suzina Abdul Hamid\* and Ahmad Sukari Halim\*\*

**Institution** Department of Otorhinolaryngology and Head & Neck Surgery \* and Division of Plastic Surgery\*\*, Department of Surgery, School of Medical Sciences, Universiti Sains Malaysia, Kelantan, Malaysia.

**Introduction** Cleft lip and / or palate malformations are the most common congenital abnormalities in the craniofacial region. These patients suffer impaired facial growth, feeding difficulties, dental anomalies, speech disorders, poor hearing and difficulties in psychological wellbeing and social relationships. The condition requires multiple surgical procedures from birth to adulthood. All these features dictate that the condition should be managed by specialist multidisciplinary teams. The principle outcome measures are facial appearance, speech disorders, facial growth and psychosocial wellbeing.

**Objective** The aim of this critical assessment is to evaluate the early outcome of cleft surgery in cleft lip and/or palate patients and the reproducibility of critical assessment on early outcome.

**Methodology** We reviewed the cleft assessment data of patients with cleft lip and/or palate obtained from October 1998 till January 2000. The data were collected during their follow-up at the Plastic clinic, Hospital Universiti Sains Malaysia.

**Results** From a total of 109 audit done, 66 patients were audited and 30 patients were audited more than once. Male to female ratio were 5:6. The most common type of cleft was complete unilateral cleft primary and secondary palate (48.5%), followed by incomplete cleft primary palate (12.1%), complete bilateral cleft primary and secondary palate (10.6%), complete cleft primary palate (9.1%), complete cleft secondary palate (6.1%), incomplete cleft secondary palate with submucous cleft anterior (6.1%), and other variable combination of cleft (7.5%). The outcome of lip repair were mild to moderate scar occurring in 70.2%, no notching in 63.8%, no lip discrepancies in 77.5% and no vermilion deficiency in 56.9%. Common deformities of the nose were depressed alar dome, buckled alar and widened nostrils. 13.8% has normal nose. After palatoplasty, majority of patients has no fistula (62.9%), the uvula appeared normal (60%) and no regurgitation (65.7%). Reproducibility of critical assessment of the early outcome was 73.3%.

**Conclusion** In conclusion, there is a variable presentation of cleft type with the most common is the complete unilateral cleft lip palate. The early outcome of lip repair on facial aesthetic is very good. This new critical assessment approach is reliable as the reproducibility is very high.

**Title THE OUTCOMES OF VASCULARIZED FIBULAR GRAFT FOR THE RECONSTRUCTION OF LONG BONE DEFECT**

**Authors** Mohd. Imran Yusof<sup>1</sup>, Ahmad Sukari Halim<sup>2</sup> and Zulmi Wan<sup>3</sup>

**Institution** <sup>1,3</sup>Department of Orthopedics, <sup>2</sup>Division of Plastic and Reconstructive Surgery, School of Medical Sciences, USM, Kubang Kerian, Kelantan, Malaysia

**Introduction** Skeletal defects following trauma or bone tumour resection may be successfully treated by conventional bone grafting or bone transport. However for massive defect following en-bloc resection of a localized tumor, chronic osteomyelitis or following trauma, the reconstruction of such defects is really challenging. Vascularized fibular graft is one of the treatment alternative since 1975 when Taylor first reported the successful use of the graft for the reconstruction of a tibial defect. In Malaysia, vascularized fibular grafting for the management of massive bone loss is still new. A total number of 19 vascularized fibular graft had been performed involving various causes of bone defect and 13 cases involves the reconstruction of limbs.

**Objectives** The objectives of this study is to assess the outcome of this procedure. These include identifying the immediate complications of vascularized fibular grafting, to study the duration of time taken for the vascularized fibular graft to incorporate and time taken for the patient to start functional activities of the affected limb.

**Methodology** This is a retrospective study. All patients had undergone reconstruction of the limbs following massive resection of the diseased bones. They were followed up and reviewed for the minimum of 6 months to see the early complications. Functional and radiological assessment were also done periodically.

**Results** Thirteen patients had been operated for long bone defects reconstruction of various causes; tumor cases (9), infected non union that failed conservative treatment (3) and congenital pseudoarthrosis (1). Patients age ranges from 2 years to 65 years old. The recipient sites involved 4 femurs, 7 tibias, 1 humerus and 1 radius and ulna. The procedures take an average of 17.6 hours. A patient had undergone at least one operation prior to the surgery with the maximum had seven operations prior to it except the child with the pseudoarthrosis who was treated with this method primarily. Average skeletal defect is 17.9 cm and the average fibular graft is 22.2 cm. Allograft used in 9 patients with an average of 19 cm.

**Conclusion** Vascularized fibular grafts offer an effective means of reconstruction of a segmental massive bone defect following en-bloc resection for various indications. Surgical technique can be improved thus minimize the complications. Proper selection of patients will improve the outcomes.

**References** 1. Robert W, W Hsu, Michael B Wood Franklin, H Sim Edmund, YS Chao. Free vascularized fibular grafting for reconstruction after tumor resection. *J Bone Joint Surg (Br)* 1997; 79-B Jan 1997. 2. Jesse B, Jupiter H, John Gerhard, Jose Guerrero, James A Nunley, L Scott Levin. Treatment of segmental defects of the radius with use of the vascularized osteoseptocutaneous fibular autogenous graft. *J Bone Joint Surg.*

**Title COMPLICATION AND MORBIDITY ASSOCIATED WITH PROLONGED SURGERY (OPERATIVE TIME > 6 H)**

**Authors** T. Vishvanathan<sup>1</sup>, Ahmad Sukari Halim<sup>2</sup> and Zulmi Wan<sup>3</sup>

**Institution** <sup>1</sup>Department of Orthopaedics, <sup>2</sup>Division of Plastic and Reconstructive Surgery, School of Medical Sciences, USM, Kubang Kerian, Kelantan, Malaysia

**Introduction** It's a long held belief that prolonged surgery carries a higher risk than the expected complication rate. However the evidence to support this is scarce as very few studies has been carried out so far. The exact contribution of duration of surgery to the development of post operative complication and morbidity is uncertain. Whether operative time is an independent risk factor is unknown, as patients undergoing long operations may have numerous other risk factors. Keeping the above in mind we wanted to describe the risks directly associated with long operative time by examining a number of patient groups undergoing different types of reconstructive procedures, common to each was their long duration of surgery.

**Methodology** Between January 1997 to December 1999, we retrospectively assessed those patients who underwent reconstructive surgery lasting 6H or more. A total of 42 patients were studied. They were grouped into 2 main groups: Upper and lower limb surgery (n=25) head and neck surgery (n=17). Preoperative details including relevant risk factors and prophylactic measures as well as intraoperative surgical and anaesthetic problems were recorded. Post-operative progress was assessed as at 3 stages. Immediate post-operative period (1st hour), next 48H (in ICU or HDU) and beyond 48H till discharge. Post-operative complications were recorded paying special attention to those complications felt likely to be related to duration of surgery i.e septic complications, venous thrombosis, pressure sores and compression neuropathies.

**Results** Each of the 2 categories had a similar duration of surgery but there were significant differences in post-operative morbidity between them. Septic complications were the most frequent in either group but the head and neck group had three times greater septic complications. Respiratory complications were seen only in the head and neck group. Only one in each group suffered superficial pressure sore. 2 patients from the limb surgery group sustained neural injury. No cases of thromboembolism was observed.

**Conclusion** Despite having similar duration of surgery the differences in post-operative complications between the two groups suggest that duration of surgery alone is not a major determinant of post operative morbidity and the type of surgery performed appears to be more relevant to morbidity. If adequate prophylactic measures are undertaken, the possible complications of long surgery can be minimized.

**Title EFFECT OF PETHIDINE AND FENTANYL AS ANTI-SHIVERING AGENTS IN PATIENT UNDERGOING SPINAL ANESTHESIA FOR ORTHOPAEDIC SURGERY**

**Authors** A.J. Nizar, O. Mahamarowi, G. Ghazaimie, H. Shamsulkamaruljan, A. Abu Bakar, J. Kamarudin and N.M. Nik Abdullah

**Institution** Department of Anesthesiology, School of Medical Sciences, Universiti Sains Malaysia, Kubang Kerian, Kelantan.

**Introduction** Post-anesthetic shivering were reported up to 5-65% of patients after anesthesia and may be very distressing to the patients. Shivering is a known thermoregulatory response to hypothermia and has a deleterious medical and surgical complication following anesthesia. Opioids has been reported to be very effective to treat post-operative shivering.

**Objective** The aim of this study was to compare the anti-shivering properties of low dose pethidine and fentanyl in patient undergoing orthopaedic surgery under spinal anaesthesia.

**Methodology** This is randomized controlled trial whereby 65 consecutive patients who shivered following spinal anesthesia from orthopedic surgery were randomly treated with pethidine 0.35 mg/kg, fentanyl 0.35µg/kg or placebo (0.9% sodium chloride) in equal volume intravenously. Assessment of response was made within 15 minutes after administration. The incidence of reshivering was documented after 30 minutes response time.

**Results** The incidence of response (disappearance of shivering) in pethidine and fentanyl treated groups were 77% and 39% respectively. There was spontaneous time related disappearance of shivering in sodium chloride treated patients. In pethidine treated group, shivering disappeared more than twice as much in control group. The difference was highly significant (p<0.001) and was unrelated to age, gender, ideal body weight, body temperature, duration of surgery and blood loss. Fentanyl has no significant anti-shivering effect. There was no significant difference in term of reshivering incidences among the three groups.

**Conclusions** The low dose pethidine is very effective in the treatment of perioperative shivering. It is cheap, convenient, fast onset and most efficacious.

**Title THE OUTCOMES OF VASCULARIZED FIBULAR GRAFT FOR THE RECONSTRUCTION OF LONG BONE DEFECT**

**Authors** Mohd. Imran Yusof<sup>1</sup>, Ahmad Sukari Halim<sup>2</sup> and Zulmi Wan<sup>3</sup>

**Institution** <sup>1,3</sup>Department of Orthopedics, <sup>2</sup>Division of Plastic and Reconstructive Surgery, School of Medical Sciences, USM, Kubang Kerian, Kelantan, Malaysia

**Introduction** Skeletal defects following trauma or bone tumour resection may be successfully treated by conventional bone grafting or bone transport. However for massive defect following en-bloc resection of a localized tumor, chronic osteomyelitis or following trauma, the reconstruction of such defects is really challenging. Vascularized fibular graft is one of the treatment alternative since 1975 when Taylor first reported the successful use of the graft for the reconstruction of a tibial defect. In Malaysia, vascularized fibular grafting for the management of massive bone loss is still new. A total number of 19 vascularized fibular graft had been performed involving various causes of bone defect and 13 cases involves the reconstruction of limbs.

**Objectives** The objectives of this study is to assess the outcome of this procedure. These include identifying the immediate complications of vascularized fibular grafting, to study the duration of time taken for the vascularized fibular graft to incorporate and time taken for the patient to start functional activities of the affected limb

**Methodology** This is a retrospective study. All patients had undergone reconstruction of the limbs following massive resection of the diseased bones. They were followed up and reviewed for the minimum of 6 months to see the early complications. Functional and radiological assessment were also done periodically.

**Results** Thirteen patients had been operated for long bone defects reconstruction of various causes; tumor cases (9), infected non union that failed conservative treatment (3) and congenital pseudoarthrosis (1). Patients age ranges from 2 years to 65 years old. The recipient sites involved 4 femurs, 7 tibias, 1 humerus and 1 radius and ulna. The procedures take an average of 17.6 hours. A patient had undergone at least one operation prior to the surgery with the maximum had seven operations prior to it except the child with the pseudoarthrosis who was treated with this method primarily. Average skeletal defect is 17.9 cm and the average fibular graft is 22.2 cm. Allograft used in 9 patients with an average of 19 cm.

**Conclusion** Vascularized fibular grafts offer an effective means of reconstruction of a segmental massive bone defect following en-bloc resection for various indications. Surgical technique can be improved thus minimize the complications. Proper selection of patients will improve the outcomes.

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**Title SPINAL ANAESTHESIA FOR APPENDICECTOMY**

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**Institution** <sup>1,2</sup>Department of Anaesthesiology, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan <sup>3</sup>Department of Anaesthesia and Intensive Care, Hospital Kota Bharu, Kelantan

**Objective** To study the possible role of spinal anaesthesia in appendicectomy. The specific objective of the study were to identify optimal levels at which the surgery can be performed satisfactory and to identify any significant difference in the effectiveness of spinal anaesthesia in perforated and non-perforated appendix.

**Methodology** A prospective study was carried out over a period of two years at Hospital Kota Bharu. A total of one hundred and thirty five patients were included and they were given spinal anaesthesia instead of general anaesthesia for the surgery. All the patients belonged to ASA classification of 1 and 2. Site of insertion of spinal needle was at L2-L3 and L3-L4. Injection of local anaesthetic agent at both these sites produced sensory blocks at T6, T7, T8, which are also the levels recommended by many authors for lower abdominal surgery.

**Results** Of the one hundred and thirty five patients, nine (6.67%) were converted to general anaesthesia due to surgical and anaesthetic reasons. It was noted that the patients with dural puncture site at L2-L3 had increased haemodynamic instability than those at L3-L4. The complications encountered in this study were hypotension (17.8%), shivering (7.4%), vomiting (3.7%) and bradycardia (2.2%). All these complications were easily managed.

**Conclusion** There may be a role for spinal anaesthesia in appendicectomy. Perforated as well as non-perforated appendix can be successfully performed under spinal anaesthesia.

**Title ANAESTHESIA FOR ELDERLY PATIENTS: A DESCRIPTIVE STUDY**

**Authors** J. Nik Azizah<sup>1</sup>, N.M. Nik Abdullah<sup>2</sup>, C.H. Fong<sup>3</sup>, Y. Zolkepli<sup>3</sup>, W.A. Wan Aasim<sup>2</sup>, O. Mahamarowi<sup>2</sup> and J. Kamaruddin<sup>2</sup>

**Institution** <sup>1,2</sup> Department of Anaesthesiology, School of Medical Sciences, Universiti Sains Malaysia, Kubang Kerian, Kelantan <sup>3</sup> Department of Anaesthesiology and Intensive Care, Hospital Kota Bharu, Kelantan

**Introduction** Ageing is a biological process which involve failure to replace dead or damaged cells resulting in reduced reserve capacity in most organs. The administration of anaesthesia to elderly patients poses many problems. The risk of perioperative complication is also expected to increase with age.

**Objectives** The aim of this study was to determine the incidence of pre-existing diseases, intraoperative complications, postoperative morbidity and mortality among elderly patient and their association with age, duration of anaesthesia, type of anaesthesia and type of surgery.

**Methodology** The study population were 262 patients aged 60 years and above, who had underwent various surgical procedures under anaesthesia conducted by anaesthesiologist. The patients were follow-up from the operative day until the day of discharged or until their death in the hospital.

**Results** Diabetes mellitus and hypertension were the two most frequent pre-existing diseases encountered (16.4 % and 8.1 % respectively). Cardiovascular - related complications such as haemodynamic disturbances comprised of 83.8 %. There was higher incidence of postoperative wound infection, sepsis and coronary artery disease among elderly age group. Sepsis and myocardial infarction were the leading cause of death. Pre-existing hypertension, diabetes mellitus, COPD, emergency surgery, general anaesthesia, intra-abdominal and ENT surgery correlated with significantly higher incidence of peri-operative morbidity and mortality (p < 0.05).

**Conclusions** This results provide evidence that advanced age is a risk factor to anaesthesia and surgery due to presence of pre-morbid diseases and their associated patho-physiological changes which play a major role in determining the peri-operative morbidity and outcome.

**Title BEDSIDE ULTRASOUND INVESTIGATION IN THE I.C.U. - A 4 YEARS STUDY**

**Authors** O. Mahamarowi, J. Kamarudin, G. Ghazaim, A. Anita, W.A. Wan Adnan, A. Saedah and N.M. Nik Abdullah

**Institution** Department of Anaesthesiology and CCM, School of Medical Sciences, Universiti Sains Malaysia, Kubang Kerian, Kelantan.

**Introduction** Critically ill patients are prone to various complicating conditions and many of which can be readily diagnosed using real time ultrasound investigation. Such ultrasound studies can be safely performed in patient's own environment in the ICU with minimal disturbance to patient and the attached life support.

**Objectives** To evaluate the value of ultrasound examination in the overall management of ICU patients.

**Methodology** A prospective study was done in ICU of HUSM from January 1990 till June 1994. A real time portable ultrasound Toshiba unit was utilized which provided a sector display for viewing using a 3.75 MHz transducer. Pictures were recorded using a heat sensitive paper. The main indications for ultrasound examinations were tracing sources of infection, assessing trauma patient, assessment of therapeutic intervention, haemodynamic assessment, assisting tapping of fluids and guiding vascular access.

**Results** From January 1990 till June 1994, 1422 patients were admitted in the ICU, of which 565 (39.7%) had ultrasound investigations done. 461 (81.6%) were adults and 104 (18.4%) were in the paediatric and neonatal age group. 360 (63.7%) of the total examinations showed positive findings. 50 patients (8.8%), the positive findings allowed us to decide on emergency intervention. In 128 patients (22.7%), the positive findings were helpful in assisting the formulation of correct diagnosis and further guide patient's therapy. The other 137 (24.2%) positive findings enable us to effectively follow the progress of post-operative cases like localisation of benign fluid collection. In 45 (8.0%) cases, ultrasound was used in locating veins and used as a guiding system in venous cannulation especially in difficult and high risk cases with great ease and safety.

**Conclusion** We conclude that bedside ultrasound examination is a very useful tool in the investigation, management and follow-up of patients in the ICU. It is easy to learn, repeatable, non-invasive and a good guiding system.

**Title DELAYED CARDIAC TAMPONADE FROM VENTRICULAR RUPTURE: A CASE REPORT**

**Authors** G. Ghazaim, S. Thiruselvi and S. Bharanee and N. Abdullah

**Institution** School of Medical Sciences, Universiti Sains Malaysia, Kubang Kerian., Kelantan

**Introduction** Ventricular rupture and the subsequent acute cardiac tamponade following chest trauma are usually instantaneously fatal and the reported mortality rate ranges from 76% to 89%.<sup>(1,2,3)</sup> We would like to report a 71 years old patient who was referred to us following road traffic accident. Initial assessment showed a haemodynamically stable patient with Glasgow Coma Score of 14/15 with equal reactive pupils. Plain chest X-ray did not show any significant abnormality and his heart size was noted to be normal. He however, developed paradoxical movements of his right chest wall and frank haemothorax was found after chest tube insertion and tracheal intubation. CT scan showed frontal bone fracture, subarachnoid, subdural haemorrhage and fracture of the lamina of C5 spine.

Intraabdominal free fluid was noted on ultrasonography. Emergency thoracotomy findings were fracture of 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> ribs, and severe right chest wall and lung contusion. 2 hours into surgery and about 12 hours after trauma he became hypotensive with prominent distension of neck veins. Direct needle pericardiocentesis showed frank blood without improvement in blood pressure. After opening the pericardium, a 2-cm. right ventricular tear was found and the blood pressure became undetectable due to massive bleeding, even with aggressive fluid resuscitation, primary repair and internal cardiac massage. Patient was pronounced dead soon afterwards.

**Conclusion** Cardiac tamponade from a ventricular rupture is not always an immediate phenomenon and it can still occur after 12 hours of trauma.

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**Title IMMUNE CHANGES OF THYROID DISORDERS IN CHILDREN**

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**Introduction** Geographically, Mongolia is situated far from sea in surrounding of mountains which make difficult the way of west winds from ocean. It is a country of agriculture and animal husbandry. The another thing is livestock products are more prevailing foodstuff for Mongolians than vegetables and sea foods. Biogeochemical research of Mongolian provinces exposed that in a central and a eastern provinces the content of iodine in a soil, water and plants is 2.5-3 times less than normal (adequate) limit, in other provinces the iodine content was within the normal range or 1 time less than that. Therefore, thyroid gland disorders particularly, IDD occupies not insignificant percent (28%) of morbidity in children due to the aboveclimatic and provisional peculiarity. However, the Graves' disease occurs among adults dominantly (80% of total endocrinological morbidity in adults of Mongolia). Due to this, there is a necessity to clarify the effecting factors on developing of thyroid diseases.

**Objective** Thyroid gland plays the important role in providing normal mental development and physical growth. So the main goal of this study is to scrutinize in detail of immune reactivity effects on thyroid disorder developing, for reasons given to clarify some pathogenetic factors.

**Methodology** We have studied 50 patients in total (age range of 2-16; the average age 9.9; for male - 14, female -36), the 20 of which are with hypothyrosis, 10-with Graves' disease, 20-with endemic goiter by generally accepted questionnaire and determined total T<sub>3</sub>, T<sub>4</sub> hormones, TSH (thyrotropin) in serum using 'Human Test' by ELISA, level of Ig A, M, G in serum was determined by the method of Manchini, and total amounts of T, B lymphocytes as well as subclass of T-cells were determined by rosette formation.

**Results** In the study, total T<sub>4</sub> was decreased (p<0.001) but total T<sub>3</sub> was within the normal range, TSH in serum during hypothyrosis has increased/p<0.001/ as compared to children with Graves' disease, endemic goiter and children of control. Though, during the endemic goiter TSH and T<sub>3</sub> were within the normal range, total T<sub>4</sub> was in low level of the range. Also, a tendency to decrease of total T<sub>4</sub> was noticed. However, during the Graves' disease total T<sub>4</sub> increased as compared to the control and the other 2 disorders, but total T<sub>3</sub> had a tendency to increase. TSH was in low level of normal range. As for the immune rates, total amount of T and B cells, also, amount of Th increased and the ratio of Th/Ts decreased for the all 3 above mentioned disorders. This alteration more noticeable during hypothyrosis. However, the Graves' disease is distinguishing from the other two diseases by Ts decrease. Ig A, M, G decreased without much difference in between for all 3 types of thyroid disorders.

**Conclusion** Immune reactivity is altered during all thyroid diseases. It is comparatively rare that any alteration of immune system becomes primary reason of thyroid disease. However, primary alteration of hormone that develops due to pathologic factors has effect on immune reactivity and in the future it becomes factor with mutual negative action.