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Oral Presentations

NON-THERAPEUTIC LAPAROTOMY RATE AT THE JOHANNESBURG GENERAL HOSPITAL

Helena Alves

Trauma Unit, Johannesburg Hospital, Johannesburg

Introduction: Since the early 1980s the pressure on surgeons to be more conservative in their approach to both blunt and penetrating trauma has progressively increased. This study aims to assess the success of this approach in our unit by studying the number of non-therapeutic laparotomies performed.

Methods: Records of all trauma laparotomies performed in our unit between February 2005 and April 2007 were retrieved and analyzed. Factors influencing the decision to operate were looked at and a common denominator sought.

Results: A total of 568 laparotomies for trauma were performed over this period. Of these, 42 were non-therapeutic in nature. This represents only 7.4% of the total. The majority of non-therapeutic laparotomies involved stab wounds, but gunshot wounds accounted for 31%.

Conclusions: Non-therapeutic laparotomies are an inevitable part of trauma surgery. There is at present no consensus on what constitutes an acceptable rate.

IMPACT OF THE BEGINNING OF A NEW SERVICE FOR HOSPITAL CARE OF ACUTE CARDIOVASCULAR DISEASES ON HOSPITAL MORTALITY

Marcos D Iraola Ferrer, Arelys Falcón Hernández, Francisco J. Valladares Carvajal, Pedro O Orduñez García

Hospital Universitario Dr Gustavo Aldereguía Lima, Cienfuegos, Cuba

Objective: To know the impact of the beginning of a new service for the care of the acute cardiovascular diseases at the hospital location on hospital mortality.

Method: Study of cases before and after intervention. The intervention consisted of the opening of a new unit formed by three sections (intensive care, subintensive care, and conventional hospitalization). Two patient groups were formed. The first one by all who were discharged from the former cardiology service in a period of 9 months before the intervention, the second one by all who were discharged from the new unit during a period of 9 months as well. We recorded the age, gender and the time of hospitalization from each patient and the principal diagnosis at the time of discharge. For the analysis of the impact of the unit was used the time of staying at the hospital, choosing for this analysis the acute myocardial infarction, angina and, the hospital mortality due to infarction.

Results: A total of 1183 patients were studied, 578 before and 605 after. The differences of the time in hospital between the two periods before and after the intervention were significant for the infarction (9.1±6.0 vs 6.7±2.3; p=0.00), and for angina (6.8±12.3 vs 5.7±7.5; p=0.049) with a reduction of 2.7 and 1.5 days, respectively. The saving due to the reduction of time in hospital of those infarcted patients would be about 222 914.40 national currency (Cuban pesos) by a day of reduction or about 445 825.80 national currency by a couple of days of reduction of time in hospital. The reduction of martality after the intervention was of 7.6% (26.9% vs 19.3%, p=0.03).

Conclusions: The opening of a unit that takes care of patients with acute cardiovascular diseases, apart from the traditional ICU and assisted by the same medical and nursery staff is beneficial and effective when time in hospital is reduced and lowering the mortality by infarction.

ALCOHOL, A SIGNIFICANT RISK FACTOR FOR HEAD INJURIES

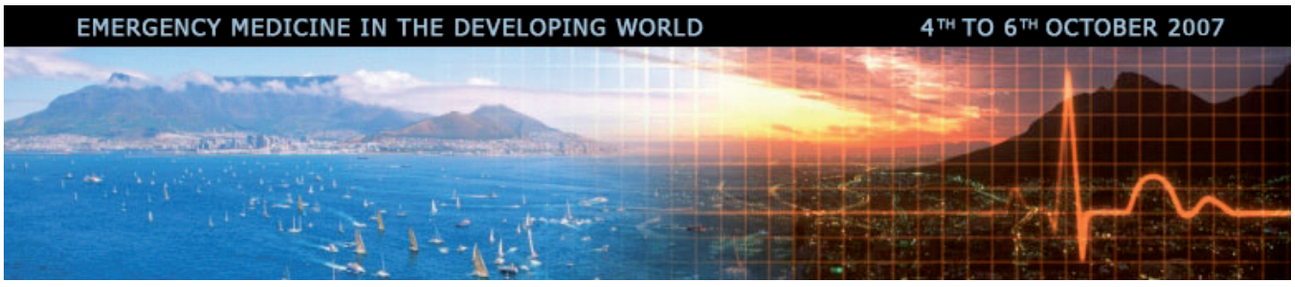
Johnston JJE, McGovern SJ

Objective: To determine whether there is a significant difference in the pattern and severity of injury sustained during falls in patients who have consumed alcohol and those who have not. To determine how pattern and severity of injury correlates with blood alcohol level [BAL].

Method: A prospective quasi-randomised controlled study between November 2001 and July 2002. All healthy adults between 16 and 60 years who had fallen from standing height were included. A systematic history and examination allowed calculation of injury severity scores as per abbreviated injury scale update 1998. BALs were obtained from intoxicated patients with consent.

Results: 351 healthy adult patients were included in the study. There were 238 in the no alcohol group, 113 had consumed alcohol and blood alcohol levels were obtained for 47. The alcohol group had a higher incidence of head injuries (46 (48%) v 22 (9%)) with a lower incidence of limb injuries (39 (39%) v 183 (76%)) than the no alcohol group. There was a significant difference in the pattern of injury between the alcohol and no alcohol groups (x^2, p<0.001) and there was a significant difference in the injury severity scores (p<0.001, Z -2.5). In the alcohol group severity and pattern correlated with alcohol level at the time of injury. Patients with an alcohol level <200 mg/dl had mostly soft tissue limb injuries (58%), 200-250 mostly significant limb fractures (55%) and >250 mostly significant head injuries (90%).

Submitted abstracts for Scientific Sessions



Conclusions: Alcohol related falls are more often associated with severe craniofacial injury. The severity of both limb and head injury is greater and correlates directly with BAL.

VALIDATION OF THE MODIFIED EARLY WARNING SCORE AS A TRIAGE INSTRUMENT IN THE WESTERN CAPE PRIVATE HEALTH CARE SETTING

Gottschalk S, Warner C, Wallis L, Kow K, Burch V

Medi-Clinic, Green Point, Cape Town

A prospective validation of the Modified Early warning Score (MEWS) was undertaken over a 2-month period in 2004. A total of 1867 patients were included in the study. The sample was divided into trauma (562) and non-trauma (1305) cases. The initial MEWS score was compared with Emergency Centre (EC) outcome.

Results showed that the MEWS score worked well for non-trauma but poorly for trauma cases. Simulations were then run with variations of the MEWS score. These included the addition of different mobility parameters and trauma factors, including the current variation in national use in South Africa (the Triage Early Warning Score (TEWS)).

The efficacy of the MEWS score was greatly improved by amendments. A novel variation is proposed as a unified predictive triage score for both trauma and non-trauma EC cases.

IMPROVING HOSPITAL CARE FOR CHILDREN: EMERGENCY TRIAGE ASSESSMENT AND TREATMENT (ETAT)

Malek, Elmarie; Wolmarans, Gawie; Van Rensburg, Stephen

Department of Paediatrics, Witbank Hospital and University of Pretoria

More than 30% of child deaths in hospitals occur within the first 24 hours of admission. Emergency triage and treatment of children is part of a WHO initiative to improve the quality of care provided to sick children attending referral care facilities. Currently this process has been established in many neighbouring African and other countries. WHO has developed a 4 day Emergency Triage Assessment and Treatment Course which trains health workers on the elements of ETAT and also assists health workers on how to develop ETAT systems and services in their respective hospitals. The course is part of the overall hospital improvement initiative for sick children. The WHO hospital improvement initiative, including ETAT, forms part of the new Mpumalanga MINCC project, which aims to reduce mortality and improve quality of health care for newborns and children at all 25 provincial hospitals. Hospital child deaths within the first 24 hours are expected to decline once ETAT has been appropriately implemented. A paediatric doctor at Witbank hospital has recently attended the WHO ETAT course. We adapted the course for local implementation and commenced training during June 2007. We will present our early experience with implementing ETAT training at Witbank Hospital. The principles of the WHO initiative for improving the quality of hospital care for children will also be presented. The integration of ETAT with other provincial PHC programmes at district level is proposed.

PREVENTABLE TRAUMATIC DEATHS IN THE MTHATHA AREA OF SOUTH AFRICA

B L Meel

Faculty of Health Sciences, Walter Sisulu University, Mthatha, E Cape

Background: Mthatha is a poverty stricken area in South Africa with poor infrastructure, high unemployment (49%) and poor health care services. Violent deaths are very common in this area, and accounts for about 80% of the total medico-legal work. Crime in South Africa seems to have increased drastically with a massive load of injured patients presenting for treatment in state hospitals creating a substantial workload. A National Injury Mortality Surveillance System (NIMSS) estimated that, 60 000 non-natural deaths occur in the whole country each year.

Objectives: To understand the issues related to pre-hospital and hospital deaths in injured patients, and to estimate the preventable deaths in the area.

Design: This is a retrospective descriptive study on 274 medico legal cases. Interviews of the family members were conducted individually before carrying out the autopsies. The time of survival after trauma, place of death, and the cause of death were recorded along with the demographic information – age, sex, occupation, and personal habits.

Setting: Umtata General Hospital, Umtata, Eastern Cape Province, South Africa. This is the referral hospital for a surrounding population of about 400 000.

Results: Seventy four per cent (74%) of the victims had been declared, 'presumably dead' at the scene by the community or police, and taken to mortuary without any death certification by a physician. The rest (26%) were taken to hospital where later they succumbed to trauma. Out of these only 4% underwent surgery. The majority (68%) of the victims were young (<40 years). The causes of deaths were: motor vehicle accidents (MVA) 32%, gunshot 24%, stab injury 17%, blunt trauma 9% and miscellaneous (drowning, burns, hanging etc.) 18%. Head and chest injuries were the commonest 50%. Only 17% survived from days to weeks. About 75% subjects died within 6 hours of the trauma.

Conclusion: There is a very high pre-hospital (74%) mortality of trauma patients in the Transkei region. The fact that members of the community or police and not a medical practitioner confirmed deaths raises the ethical issue of right to life. Some may actually be alive when they are considered dead.

Recommendation: As it is clear that a good proportion of pre hospital deaths are preventable, employing more medical personnel in the rural areas along with an effective ambulance service would seem the urgent need.

KNOWLEDGE, ATTITUDES AND BELIEFS OF EMERGENCY CARE PRACTITIONERS TO VICTIMS OF DOMESTIC VIOLENCE IN THE WESTERN CAPE

Navindhra Naidoo

Cape Peninsula University of Technology, Cape Town

Purpose: Domestic violence has a significant prevalence in the world, and certainly in South Africa, yet Emergency Care Practitioner (ECP) training and practice does not have any particular focus on domestic violence intervention. The absence of any clear response protocol to domestic violence in a Health Professions Council of South Africa (HPCSA) regulated profession, suggests the reliance on health practitioner discretion in this regard. This is problematic as the profession is male dominated and focused on tertiary levels of care. ECPs may be positioned to screen for abuse early, yet there is no evidence of success or failure in this endeavour. This study aimed to ascertain what the prevailing ECP knowledge, attitudes and beliefs around domestic violence in the Western Cape are, so that any factors preventing or nurturing early identification and appropriate treatment of domestic violence may be mitigated or supported respectively.

Major results: The attitudes and beliefs of Emergency Care Practitioners elicited from this study suggest a poor level of understanding of the extent and nature of domestic violence. There is a probable low detection rate amongst the majority of ECPs. There exists harbouring of myths that may confound the implementation of a pre-hospital protocol for domestic violence management. There is an inadequacy of current ECP practice with respect to domestic violence crisis intervention with regards screening, management and referral.

Conclusion/recommendations: The EMS response to domestic violence should be congruent with an appropriate health sector response and should include universal screening comprehensive physical and psychological care

for those patients who disclose abuse; a safety assessment and safety plan; the documentation of past and present incidents of abuse; the provision of information about patients rights and the domestic violence act; and referral to appropriate resources. The ECP curriculum should emphasise the particular nature and treatment of domestic violence. The study supports the need for the introduction of a comprehensive ECP protocol, in training and in practice.

This information should prove useful in designing educational programmes and clinical strategies to address this public health issue.

IN THE TSUNAMI'S WAKE – EMERGENCY MEDICINE IN SRI LANKA

Gerard O'Reilly

Alfred Hospital, Melbourne, Australia

In response to the devastating impact of the Indian Ocean tsunami of Boxing Day, 2004, the Health for the South project was developed to support future disaster preparedness in Sri Lanka's Southern Province. In addition to the building of an Emergency and Trauma Centre, at Teaching Hospital Karapitiya, in Galle, Sri Lanka, there is a capacity-building component to the current project, focusing on maximising the emergency and trauma care skills amongst the local staff. This capacity-building program is supported by the State Government of Victoria, Australia, and funded by AusAID

To provide the necessary training in emergency care, teams of emergency physicians and emergency nurses are spending six periods of three weeks at the hospital's interim Emergency and Treatment Unit, spanning a period of fifteen months. These teams are being provided by the Alfred and Royal Children's Hospitals in Melbourne, Australia. In the same program period, four senior medical and nursing staff will each undergo a three week orientation at the Alfred Emergency and Trauma Centre.

The first training module was completed in May 2007, and with a focus on the emergency management of the trauma patient, and trauma triage, the impact on the reception and resuscitation of trauma patients in Galle is already evident. Such training in trauma triage and management will provide the foundation upon which to augment the provincial disaster preparedness.

Beyond the initial fortnight of a disaster of the magnitude of the tsunami, the health need is predominantly an emergency public health response. Notwithstanding this fact, emergency medicine has an important role in the subsequent cycle of disaster recovery and preparation.

THE INTRODUCTION OF AN ACUPUNCTURE PROGRAM IN THE EMERGENCY DEPARTMENT

De Villiers Smit

The Northern Hospital, Melbourne, Australia

Introduction: The Division of Chinese Medicine of an Australian University recently implemented an acupuncture program within an Australian ED. This program involves acupuncture being part of the management plan offered to suitable patients presenting to the ED. The objectives of this study were to: 1) describe the demographics of the population most likely to receive acupuncture; 2) identify medical conditions appropriate for acupuncture treatment in the ED; and 3) to identify issues regarding safety and quality of care.

Methods: A prospective review of all patients presenting to the ED who were potentially eligible to receive acupuncture was performed between 1st March 2006 and 13th of December 2006.

Results: A total of 506 patients were approached for acupuncture and 302 (59.7%) initially agreed to receive acupuncture .The median age was 43 years with females accounting for 59%. The main reason patients refused acupuncture was that their symptoms were under control due to medical treatment received prior to acupuncture.The most common initial complaint was abdominal pain (n = 127, 25%), followed by back pain (n = 112, 22%), lower limb pain (n = 75, 14.8%) and headache (n = 58, 11.5%).

There was a statistically significant reduction in both pain and nausea scores. A total of 3 minor adverse events were recorded. The median satisfaction score was 9 out of 10. About 80% of patients stated that they would have acupuncture again.

Discussion: This study describes the safe and effective use of acupuncture for certain conditions in an ED setting.

KETAMINE FOR PREHOSPITAL USE: NEW LOOK AT AN OLD DRUG

James Svenson, Michael Abernathy

University of Wisconsin, Madison, Wisconsin, USA

Introduction: Ketamine has been used extensively for analgesia and anesthesia in many situations, including disaster surgery where extra personnel and advanced monitoring are not available. There are many features of ketamine that seem to make it an ideal drug for prehospital use. The reported use of ketamine in the prehospital environment is limited however. The purpose of this study is to review the experience in the use of ketamine in a regional air ambulance service and suggest indications for its use in the prehospital setting.

Methods: This was a retrospective study of all patients transported by the University of Wisconsin Med Flight program. Patients were included in this study if the Med Flight crew had used ketamine at any time during the flight. Data regarding the transport collected included patient age, type of transport, indications for ketamine use, and adverse reactions.

Results: During the period studied, ketamine was used in 40 patients.

The age range was 2 months to 75 years old. The indications and situations requiring use were varied and included both trauma and medical patients. Hypotension with need for analgesia, agitation or combativeness and intact airways, or pain unresponsive to narcotic medications were the most common indications for use. Ketamine was used both IV and IM, even without IV access. There were no adverse reactions.

Conclusions: Ketamine is an ideal drug for use in many prehospital situations. Our experience suggests that it is safe, effective, and may be more appropriate than drugs currently used by prehospital providers.

Poster Presentations

RISK FACTORS PRECIPITATING EXACERBATIONS IN ADULT ASTHMA PATIENTS PRESENTING AT KALAFONG HOSPITAL, PRETORIA

Mimi Geyser, P Rheeder

University of Pretoria

Objective: To determine if poor compliance with asthma treatment is independently associated with exacerbations requiring emergency room visits in adult patients seen at Kalafong Hospital, a secondary regional and teaching hospital affiliated to the University of Pretoria.

Methods: A matched case-control study was undertaken – matched on age and gender, between Dec 2003 and May 2005. Known asthma patients with exacerbations presenting at the hospital's emergency unit were chosen as cases. Controls were stable asthma patients recruited from the outpatient departments. A structured questionnaire was used to interview patients concerning their possible exposure to certain triggers and risk factors. Univariate and multivariate analysis with conditional logistic regression was done to determine any significant exposures. Participants were between 18 - 65 years of age.

Results: Three hundred and fifty-six patients were evaluated. Fifty cases and 100 controls were enrolled. Cases were shown to be more non-compliant

than controls (OR = 2.18; 95% CI: 1.09 to 4.38, p = 0.03). Missing follow-up doctor appointments for the last 6 months was statistically significant with an OR of 2.39 (95% CI 1.08 to 5.27) and p = 0.03. Cases had more bacterial respiratory infections than controls (OR = 5.00; 95% CI 1.57 to 15.94, p = 0.01).

Conclusion: Non-compliance and bacterial respiratory infections were strong predictors of exacerbations in adult asthma patients at Kalafong Hospital.

CLINICAL PRESENTATIONS OF CEREBRAL VENOUS SINUS THROMBOSIS

Dr Mahesh Joshi, Dr Anunaya Jain, Dr Varsha Joshi

Emergency Medicine Department, Apollo Hospital, Jubillee Hills, Hyderabad, India

Background: Cerebral Venous Sinus Thrombosis (CVST) is a diagnosis often missed in the Emergency Department (ED), due to its varied and non-specific clinical presentation. It remains a potentially life threatening differential diagnosis in patients presenting with headache or seizures.

Objective: To describe the clinical features, risk factors and MR imaging findings of patients with CVST presenting to an ED in Hyderabad, India.

Methods: We included all consecutive patients admitted trough the ED over a 4 year period, with diagnosis of CVST based on MR imaging. There was no restriction by age or gender. Clinical features at presentation, risk factors for CVST and MRI findings were documented. Statistical analyses were performed in Epi Info.

Results: The cohort consisted of 54 patients. There was the same number of males and females (27 in each group). The mean age was 30 years (range 2 to 80 years).

The most common symptom at ED presentation was headache (76%), followed by focal neurological deficit (63%), nausea and vomiting (59%), altered mental status (57%), papilledema (54.9%), seizures (50%), hemiparesis (31.4%), quadriparesis (19.5%), decreased visual acuity (12.9%) and aphasia (5.6%)

Conclusions: Women, patients with co-existent infection and those with brain infarctions were more likely to present with altered mental status. The clinical finding of papilledema was significantly associated with sagital sinus thrombosis.

The diagnosis of CVST requires a high degree of clinical suspicion due to its varied presentations, and EM physicians should be well versed with the clinical features for its early diagnosis and treatment.

Table 1: Risk factors for cerebral venous sinus thrombosis (%)

Infection	38.9
Anemia	32.4
Post-partum	12.9
Hypercoagulable states	11.1
Hypertension	7.4 (all males)
Diabetes	7.4
Hyperhomocysteinemia	7.4
Smoking	7.4
Alcoholism	7.4
Oral contraception use	5.5
Sinusitis	3.7
Post trauma	3.7
Pregnancy	1.9 (1 patient)

Females were 3 times more likely to present with altered mental status compared to men (Odds ratio (OR): 2.97; Risk ratio: 1.58). Also patients with a concomitant infection were more likely to have an altered mental status (OR: 5.8).

Table 2: MRI findings – venous sinus involvement (%)

Transverse sinus	75.9
Sagittal sinus	75.5
Sigmoid sinus	52.8
Straight sinus	22.6
Transverse + sagittal	20.4
Transverse + sagittal + sigmoid	18.5
Co-existent infarcts	46.5

Patients with sagittal sinus thrombosis were more likely to present papilledema (p=0.0005), and patients with co-existent infarcts (46.5%) were more likely to have seizures and altered mental status at presentation.

LACTATE AS A PREDICTOR OF HOSPITAL ADMISSION AND LENGTH OF STAY IN EMERGENCY DEPARTMENT CHILDREN

Chris Vorwerk, Barbara Stahl, Vivek Pillai, Ffion Davies

Emergency Department Academic Unit, Leicester Royal Infirmary, Leicester, UK

Background: Blood lactate is known to be raised in patients with severe illness or injury. Studies amongst adults and PICU patients have shown an association between high blood lactate and multi-organ failure/mortality. No study has examined whether lactate predicts illness severity in children when measured in the Emergency Department.

Objective: To determine whether lactate taken in ED predicts hospital admission and length of stay in unselected children.

Methods: Retrospective study of children who had their lactate measured whilst in ED during January - March 2007 (bloods taken for any reason). Patients were analysed in three pre-assigned lactate-categories, low (<2.5 mmol/l), moderate (2.5-3.9 mmol/l) and high (≥4 mmol/l). Admitted patients were assigned to three groups according to the duration of hospital stay (<24 hours; 24-72 hours; >72 hours). Comparison was made using x^2-test and t-test.

Results: 221 out of 224 eligible children were included. Children admitted to hospital had a significantly higher mean venous lactate than those discharged (2.9 mmol/l, 95% CI 2.6-3.1 versus 2.0 mmol/l, 95% CI 1.7-2.3; p=0.0003). Venous lactate ≥ 4.0 mmol/l was 16.9% (95% CI 11.6-23.8%) sensitive and 95.1% (95% CI 85.4-98.2%) specific for hospital admission and was more likely to result in a hospital stay of >72 hours (OR 3.7; 95%CI 1.6-8.6).

Conclusion: Our results demonstrate a strong association of lactate with hospital admission and length of stay even in unselected ED children. A larger study with sub-group analysis and follow-up of discharged patients may yield more clinically useful results.