Epidemiological analysis of adult fractures in 5 years. Reports from a Chinese Orthopaedic Hospital over 60,000 fractures cases

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Background: The epidemiology of adult fractures is changing quickly. Most of the investigations focus on the osteoporosis and single part of the body, little is known about the epidemiological results of the whole body bone fractures.

Methods: An analysis of 59,005 patients and 60,402 fracture sites reviewed in a single orthopaedic trauma centre from 2003 to 2007. We choose to review all the 5 years fractures in our hospital, both outpatient clinicals and inpatient surgery patients. An research team was formed by eight experienced orthopaedic surgeons, they were asked to review all the fracture patients’ image database and do an classification according to the AO/OTA fracture classification systems. An orthopaedic professor and a radiology professor were asked to do a superintendent.

Results: The results showed that there are eight different fracture distribution curves into which all fractures can be placed. Only two fracture curves involve predominantly young patients; the other six show an increased incidence of fractures in older patients. It is popularly assumed that osteoporotic fractures are mainly seen in the thoracolumbar spine, proximal femur, proximal humerus and distal radius, but analysis of the data indicates that 11 different fractures should now be considered to be potentially osteoporotic. About 30% of fractures in women, 66% of fractures in man and 70% of inpatient fractures are potentially osteoporotic.

Conclusions: It is meaningful to analysis the epidemiology of the adult fractures. Improved social conditions and medical treatment have led to an increasingly aged population with an increasing number of fractures in both men and women. It seems likely that this trend will continue, that there will be further changes in fracture epidemiology and that some of the other fractures will soon have to be regarded as osteoporotic.

Keywords: Fracture; Adult; Polytrauma; Epidemiology

doi:10.1016/j.injury.2009.06.180

Orthopaedic trauma service utilisation—Is there more than what meets the eye?

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Background: Proper utilisation of trauma services can have a significant impact on patient outcome. Delays leading to postponement of trauma surgeries can result in poor outcome especially in the elderly. We analyse the factors influencing poor trauma service utilisation and its impact.

Methods: This retrospective study included all Orthopaedic trauma patients who required surgical intervention over a 4-week period. Data was collated on time scale for the trauma patient through their journey from the ward to the trauma theatre. Any delays and subsequent postponements were assessed and reasons analysed.

Results: There were 192 admissions relating to trauma during the study period with 158 proposed surgical procedures. There was a delayed start to the trauma theatre list by >30 min in 53.6% of days. A surgeon was available to start the list on time in 75% of days. The mean delays were as follows: ward delay, 20.12 min (range 7–86 min); theatre reception, 12.1 min (range 0–50 min); anaesthesia, 20.6 min (range 1–75 min) and delay between consecutive patients, 5.3 min (range 0–95 min). Most delays were in the ward due to re-shuffling of list, pending investigations, patients not kept ready and lack of communication between the medical personnel. The delays resulted in postponement of 55 surgical procedures.

Conclusion: Trauma services should be managed appropriately to improve patient care. Our study identified a deficiency in the utilisation of available trauma services. A thorough planning with good communication between all members of the trauma team would improve the quality of trauma care.

Keywords: Trauma; Theatre; Utilisation

doi:10.1016/j.injury.2009.06.181

Are we requesting unnecessary pre-operative blood tests in ASA 1 patients undergoing minor orthopaedic trauma surgery?

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Aim: An audit to identify the number of unnecessary pre-operative blood tests requested for ASA 1 (American Society of Anaesthesiologists) patients undergoing minor orthopaedic trauma surgery.

Background: An ASA 1 patient is a normal healthy individual without any clinically significant co-morbidity or past medical history. In 2003 The National Institute of Clinical Excellence (NICE) recommended that no pre-operative blood tests are necessary for ASA 1 patients.

Materials and methods: 127 ASA 1 patients (average age 34, M2:F1) undergoing minor orthopaedic trauma surgery at the Norfolk and Norwich University Hospital between June and September 2008 were identified using the electronic theatre list database. These patients were identified manually on the database and their details collected. The nature and number of pathology requests was analysed using the ICE desktop system. This is an electronic central management system for hosting patient centred applications and gathers patient information from many different sources such as PAS (Pathology Administration System).

Results: 73% of the patients had a full blood count done, 33.4% of these had abnormal results but none clinically significant. 72% of the patients had urea and electrolytes done, 7% of these had abnormal results but none were clinically significant. 34% of the patients had liver functions done, 9.1% of these were abnormal but none clinically significant. 12% of the patients had coagulation screen done, none had abnormalities. 17% of the patients had CRP done, 22.8% had abnormal results but none were clinically significant. 46% of the patients had group and save done none were indicated.

Conclusion: 79% of patients had pre-operative blood tests performed. There were no abnormal results significant enough to alter patient management. This is associated with potentially avoidable cost and risk.

Recommendations: ASA 1 patients undergoing minor orthopaedic trauma surgery should not have routine pre-operative blood tests performed.

Keywords: Pre-operative; Blood tests; Trauma

doi:10.1016/j.injury.2009.06.182