

0761: TRANEXAMIC ACID ADMINISTRATION IN MAJOR TRAUMA

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Introduction: The CRASH-2 trial in 2010, demonstrated that early administration post injury (<3hrs) of tranexamic acid (TXA) significantly reduced all-cause mortality in major trauma patients with significant haemorrhage. The purpose of my audit was to assess compliance with the following standard: 100% of trauma patients requiring blood transfusion should have had TXA < 3 hours after injury and have received a maintenance dose.

Methods: All major trauma patients admitted to The Queen Elizabeth Hospital Birmingham, a major trauma centre, over a 3-month period, were identified using information from the trauma audit and research network database. From these, patients receiving a transfusion were analysed to the audit standard.

Results: 163 trauma patients were identified. Of those trauma patients requiring blood transfusion (13), 77% received TXA <3 hours. 23% of major trauma patients requiring blood transfusion were not given TXA at all. 31% of patients requiring blood transfusion did not have the 2nd dose of TXA.

Conclusions: TXA should be given as early as possible to bleeding trauma patients. For trauma patients admitted late after injury, TXA is less effective and could be harmful. TXA should be considered in a pre-hospital setting so as not to delay administration.

0783: PROSPECTIVE OBSERVATIONAL STUDY OF PRACTICE AND OUTCOME OF EMERGENCY APPENDECTOMIES IN A SINGLE CENTRE

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Introduction: Appendectomy is one of the most common surgical procedures performed in the UK, however variations in management exist between hospitals. The aim of the present study was to investigate current practice and outcome in a single centre.

Methods: A prospective study of all patients undergoing appendectomy over a 3.5 month period (September to December 2013) in a single centre was undertaken.

Results: A total of 31 appendectomies were performed; median age 23yrs, 9(29%) were female. Preoperative imaging was performed in 16 patients (CT 5(31%), USS 2(13%), plain radiography 9(56%)) with radiographic evidence of appendicitis in 7(43%). 23(74%) had an elevated preoperative WCC or C-reactive protein. 9(29%) procedures were attempted laparoscopically, there was 1 conversion to open. Median duration of anaesthesia was 85 minutes (open 80minutes, laparoscopic 100minutes). The negative appendectomy rate was 16% (5 patients). Median length of hospital stay was 3 days. 5(16%) patients had adverse events within 30-days, of which 2 required surgical or radiological intervention.

Conclusions: Current practice for appendectomy in our hospital is comparable to national figures in terms of negative appendectomy rate and post-operative complications. The low level of laparoscopy may be related to the disproportionately low number of females within the present study.

0836: EMERGENCY ABDOMINAL WALL HERNIA REPAIRS: PATIENT CHARACTERISTICS AND OUTCOMES

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Introduction: Elective anterior abdominal wall hernia repairs are amongst the most commonly performed general surgery operations, usually as day-cases with <1% mortality. Despite an efficient "18-week" rule NHS hernia repair service, patients still present as emergencies. Our aim is to study the patient population presenting as emergencies and their outcomes.

Methods: We identified all patients admitted as emergencies with an obstructed/strangulated hernia between 01/04/2010-31/03/2012 at one NHS hospital covering a population of 310,000 and reviewed patient records regarding the nature of the hernia and outcome.

Results: Eighty-nine patients were admitted with an obstructed/strangulated hernia. Median age 64 years (26-94). 93% were primary hernias, 7% were recurrent. The commonest type was paraumbilical (40%), followed by inguinal (27%), femoral (11%), incisional (11%), other (11%). 98% of patients underwent emergency repair, of which 16% required bowel resection.

Median length of stay was 4 nights (0-33). 9 patients (10%) required ITU admission post-operatively. Mortality was 5.6% (n=5)

Conclusions: Paraumbilical hernias constitute the majority of emergency admissions, most likely because they are often small, minimally symptomatic and do not contain bowel; thus these patients are often not offered elective surgery. Emergency hernia repairs are associated with significant bowel resection rates, prolonged hospital stay and mortality rates of nearly 6%.

0846: EVALUATING THE MANAGEMENT OF SURGICAL PATIENTS REQUIRING EMERGENCY LAPAROTOMIES AT A MEDIUM-SIZED GENERAL HOSPITAL

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Introduction: To examine perioperative care delivered to patients requiring unscheduled laparotomies. Audit standards taken from an existing care bundle - ELP QuIC - based on guidance provided by RCSEng and NCEPOD for the management of patients requiring emergency surgery.

Methods: Retrospective analysis of 29 consecutive patient admissions from clinical records coded for obstruction/ perforation/ peritonitis that had an unscheduled laparotomy between July and December 2012.

Results: Results were based on the following points of care identified in the ELP QuIC Care Bundle: 1. Most initial assessment and resuscitation was performed by junior doctors with average 4 hour wait to ST3+ review. 2. 50% were inadequately managed where septic.

3. Patients waited an average of 4.5 hours from decision to CT scan to being scanned. Median wait to theatre was 4.45 hours. 4. No evidence of goal directed fluid therapy being used peri-operatively in these patients. 5. Only 44% of patients were admitted to critical care postoperatively.

Conclusions: This audit demonstrates a role for the use of a care bundle for unscheduled laparotomies to deliver standardised best practice and improve patient outcomes by reducing length of stay and mortality rate. Trial of an emergency laparotomy care bundle is ongoing.

0912: SYSTEMATIC REVIEW OF SEASONAL VARIATIONS IN THE INCIDENCE OF APPENDICITIS

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Introduction: This study synthesised published data to investigate potential seasonal variations of appendicitis.

Methods: A systematic review was performed following PRISMA methodology to identify studies reporting seasonal variation of acute appendicitis. No language or year restrictions were applied.

Results: Twenty-one cohort studies were identified, reporting data for >1.5 million patients. Fifteen studies analysed ≥5-years of data. Studies originated from North America (n=8), Asia (n=7), Europe (n=4) and Africa (n=2). Of 20 studies reporting seasonal variation, 17 identified excess incidence in the summer months. Of 18 studies reporting a nadir in the rate of appendicitis, 15 found this in the winter months, 2 in spring and 1 in autumn. From 3 studies there were no differences in seasonal patterns between males and females. Two studies found no differences in patterns between perforated and non-perforated appendicitis. One study comparing children and adults found that adults' peak incidence was in summer, whereas children's was in winter.

Conclusions: Appendicitis demonstrates seasonal variation with peak incidence in the summer months and a nadir in winter. This finding is consistent across the world. Further studies are required to determine the aetiology of this variation, for example climatic or other environmental factors.

0917: ACCURACY OF IDENTIFICATION OF NEGATIVE APPENDECTOMY BY CLINICAL CODING AT A DISTRICT GENERAL HOSPITAL

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Introduction: Following discharge, patients' diagnoses and procedures are coded using standardised classifications. The Hospital Episode Statistics (HES) database is built upon these codes. The aim of this study was to determine the accuracy of clinical coding in identifying negative appendectomies.

Methods: Patients who underwent emergency primary appendicectomy were retrospectively identified over a four-year period. Clinical coding for these patients was compared against the diagnostic gold standard of histopathology and the kappa co-efficient calculated.

Results: Of 1143 patients, clinical codes for 594 patients differentiated between true appendicitis and negative appendicectomies. An overall kappa co-efficient of 0.580 indicated only moderate correlation between clinical coding and histopathology. The negative appendicectomy rate was underestimated by 11% (63/594). Amongst young adults (aged 16–34 years) kappa was decreased compared to children and older adults (0.548 versus 0.663 and 0.830, respectively). The rate of incorrect clinical coding was greater for women than men (15% versus 9%, $p=0.032$).

Conclusions: Clinical coding for appendicitis was incomplete and the negative appendicectomy rate was underestimated. Coding accuracy varied depending on pathology and patient demographics. Coding processes should be improved to increase the reliability of the HES database both for national analyses and as a tool to measure individual units' outcomes.

0922: SCOTTISH TIMING OF ACUTE CARE SURGERY AUDIT (STACS)

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Aims: Proposed standards for ideal time to surgery (iTTS) for emergency general surgical patients have recently been described in 5 subgroups based upon clinical urgency. The iTTS describes the time the decision to operate was taken to actual time operation commenced. The aim of this prospective audit was to evaluate the time taken to operate in our hospital against the recommendations.

Method: Surgical admissions requiring an emergency operation were assessed over a two week period. Basic demographics were recorded in addition to the date and time of decision to operate, time of arrival in theatre and operative start time.

Results: 29 patients were included. 11 (38%) patients were operated out-with the iTTS for their diagnosis. This was most evident in those with sepsis secondary to soft tissue infection, with 100% waiting longer than recommended, ranging from an additional 3:46–18:06 hours.

Conclusion: Over a third of emergency general surgical procedures were not performed within the iTTS; having the potential to increase adverse outcomes. Our study highlights the need to review access and provision of emergency theatres. This forms the pilot in a Nationwide Scottish study, which will be completed in 2014 in association with the Scottish Surgical Research Group.

0924: SEASONAL VARIATION IN THE INCIDENCE OF APPENDICITIS AT A BRITISH DISTRICT GENERAL HOSPITAL

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Introduction: We sought to determine whether there is seasonal variation in the incidence of appendicitis in a modern British cohort and whether this may be explained by climatic variables.

Methods: Patients who underwent emergency primary appendicectomy were retrospectively identified over four years. Histopathology was the diagnostic gold standard. The monthly incidence of appendicitis and normal appendicectomy was calculated. These rates' association with monthly average humidity and mean maximum daily temperature was explored using Spearman's rank correlation.

Results: Data was available for 1079 patients. Incidence of appendicitis varied from 3.46 to 6.11 cases per 100,000 per month. The peak was in June and the trough in February. Incidence in July–January was relatively stable. There was no discernible pattern in the incidence of normal appendicectomy, with rates fluctuating between 1.40 and 2.60 cases. There was a moderately negative correlation between incidence of appendicitis and average monthly humidity (-0.552). There was only weak correlation between appendicitis and mean daily temperature (0.272).

Conclusions: This contemporary British cohort exhibits seasonal variation in the incidence of appendicitis, with a peak in early summer and trough in late winter. Although decreasing humidity is moderately correlated to an increasing incidence of appendicitis, it does not explain seasonal variation.

0961: TOPPLING TELEVISIONS: A HAZARD FOR CHILDREN

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Introduction: Toppling television sets are a well-recognised cause of neurological morbidity and mortality in children. We review the literature regarding paediatric trauma associated with falling televisions, and describe the paediatric mortality rate as a result of trauma who presented to our institution.

Methods: A comprehensive literature review was conducted using MEDLINE. A retrospective search using the Trauma Audit & Research Network (TARN) and our institution's records identified mortalities in children (age <16-years) secondary to trauma between 2010–2013.

Results: 21 articles reported 849 cases of paediatric trauma secondary to toppling televisions between 1999–2012. There were no reports from the UK or Europe. The most common age group was 1–5 years, with preponderance towards boys, and most common injury was head trauma. The mortality rate was 67/849 (8%). There were 12 mortalities secondary to trauma; 1 (8%) death due to head injury by a toppled television set in a child aged 1 year 8 months.

Conclusions: Toppling televisions is most hazardous in children <5-years of age with the most common injury being head trauma. National data is paramount in supporting prevention strategies which include raising public awareness and encouraging manufacturers to supply hazard warnings and fixation devices for the modern flat-screen television.

0962: IS CLINICAL EXAMINATION BECOMING OBSOLETE IN MODERN SURGICAL PRACTICE?

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Introduction: Computed Tomography (CT) is the radiological investigation of choice for the majority of acute surgical admissions. Accuracy has been repeatedly reported at over 95% in studies since 2002. A retrospective analysis was performed to compare a senior clinician's bedside diagnosis with that of emergency CT.

Methods: Retrospective review of 100 sequential emergency patients who required laparotomy was performed. Data was identified in August 2013 for the preceding time period. Data was collected using a standardised proforma and electronic records.

Results: 4 patients with incomplete data were excluded. The mean age was 63 years. ASA grade predominantly was 2–3. There were 21 mortalities. Clinical diagnosis and operative findings at laparotomy were consistent in 57.3% (55/96) patients. Correlation between CT diagnosis and operative findings 84.4% (81/96). Clinical diagnosis was incongruent with CT findings in 42.7% (41/96) cases.

Conclusions: Our cohort of patients comprised of systemically unwell patients who can be more difficult to assess due to physiological distress. With the significantly better diagnostic capabilities of CT when compared to clinical diagnosis alone, by a senior grade surgeon, should patients be imaged as opposed to examined on arrival to the surgical unit?

0968: THE EFFECT OF INSTITUTING A DEPARTMENTAL POLICY FOR REMOVAL OF THE MACROSCOPICALLY NORMAL APPENDIX AT LAPAROSCOPY

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Introduction: To evaluate the introduction of a departmental policy to remove all appendixes at diagnostic laparoscopy for right iliac fossa pain.

Methods: An audit of appendicectomies was completed detailing the rates of laparoscopy, negative appendicectomies and complications. After presentation a departmental policy was agreed for the removal of the macroscopically normal appendix and a re-audit was performed. A negative appendicectomy was defined as a histologically normal appendix.

Results: The initial audit reviewed 229 consecutive appendicectomies (62% laparoscopic) the re-audit reviewed 62 consecutive appendicectomies (45% laparoscopic). The rates in the initial and re-audit for negative appendicectomies were 26% versus 14.5%, and in laparoscopic appendicectomies 31% versus 21.4%. The perforation rate was 14% versus 11.3%, the wound infection rate was 4.4% versus 3.2% and intra-abdominal collection was 2.6% versus 1.6%.