SURGERY in the Digital Age

BELFAST SURGICAL WEEK
11TH TO 13TH MAY 2016

ASGBI ABSTRACTS 2016

Short Papers of Distinction

www.asgbi.org/belfast2016

Cancer/ Surgical Oncology (GI) 0110

Complete cytoreductive surgery for pseudoyxoma peritonei required gastrectomy in 12% and results **in good long-term oncological outcomes**

F. Di Fabio[1], A. Mehta[1], K. Chandrakumaran[1], B. Moran[1]

[1]*Basingstoke North Hampshire Hospital, Basingstoke, UK*

Aims: Optimal outcomes in pseudomyxoma peritonei (PMP) require complete macroscopic tumour removal by cytoreductive surgery (CRS) combined with hyperthermic intraperitoneal chemotherapy (HIPEC). Partial or complete gastrectomy may be required with ongoing debate as to the risks and benefits of gastrectomy in what is often a low-grade malignancy. This study reports early and long-term outcomes after gastrectomy in patients undergoing CRS for PMP.

Methods: This is a retrospective analysis of a prospective database of 1014 patients undergoing CRS and HIPEC for PMP of appendiceal origin. Complications and survival in all patients who had complete CRS were recorded and a comparison between those who had gastrectomy (G) and the non-gastrectomy (NG) cohort was calculated.

Results: Out of 1014 patients, 747 (74%) had CRS and HIPEC with complete cytoreduction. Overall 86/747 (12%) had total (n=6) or partial (n=80) gastrectomy. Median age was 55 years for gastrectomy patients (G) and 56 for no-gastrectomy patients (NG) (p=0.591). Preoperative tumour markers (CEA, CA-125 and CA 19-9) were elevated more frequently in G compared to NG [81%, 61% and 81% compared with 67% (p=0.001), 41% (p=0.001) and 20% (p=0.001), respectively]. The proportion of high-grade histology was similar in the two groups (G: 19% vs. NG: 18%, p=0.882). Postoperative complications (Clavien-Dindo III-IV) were 31% for G and 13% for NG (p=0.001). Three-year and 5-year overall survival was 96% and 88% in NG and 87% and 77% in G (p=0.018). Three-year and 5-year disease-free survival was 89% and 77% in the NG group versus 66% and 48% in G (p=0.001).

Conclusions: Overall 12% with PMP had gastrectomy. Unsurprisingly extent of disease correlated with the need for gastrectomy with a consequent reduction in disease-free and overall survival. Nevertheless, gastrectomy is an essential component of compete cytoreduction in a proportion of patients with PMP and results in good long-term survival.

Education and Training 0154

The Uncomfortable Truth of Post-Traumatic Stress Disorder amongst Surgical Trainees

C. Thompson[1], D. Naumann[2], J. Fellows[3], D. Bowley[2], N. Sugget[1]

[1]University Hospital Birmingham, Birmingham, UK, [2]Royal Centre for Defence Medicine, Birmingham, UK, [3], Birmingham and Solihull Mental Health Foundation NHS Trust, Birmingham, UK

Aims: To investigate the prevalence of occult, stress related psychological morbidity amongst UK surgical trainees.

Methods: Experiences of actual or threatened death or serious injury to patients are commonplace in surgery. Following exposure to stress, pathological symptoms may develop leading to Acute Stress Reaction (ASR) and Post Traumatic Stress Disorder (PTSD). The rate of PTSD in the general population is estimated at 5.6% A web-based pan-specialty survey of UK surgical trainees based upon the Impact of Events Scale- Revised (IES-R) was distributed using social media platforms and email. A score of ≥ 33 was indicative of ASR or PTSD (dependent on chronicity). Chronicity of symptoms and sources of support were also explored.

Results: 167 returned surveys; mean age of 32.7 ±3.6 years; 61.4% male. Mean training duration 6.1 ±3.6 years. Median IES-R score was 14 (IQR 7 – 23.5).

23 (16%) had IES-R score ≥ 33; 6/23 (26%) of these had symptoms <1 month (ASR); 17/23 (73.9%) had symptoms lasting >1 month (PTSD).

Those in the IES-R ≥ 33 group were more likely to be female, have repeated a year of training, and have witnessed severe pain, traumatic injury, and acute haemorrhage.

Regarding disruption to training, 140 trainees responded. 12.2% reported moderate or major disruption to their training as a cause of their stress related symptoms.

Seven trainees (29.2%) with score ≥ 33 had sought support.

Two respondents answered that they attempted to resist referral for support.

Conclusions: Occult psychological morbidity amongst surgical trainees is higher than that of the normal population. Trainees themselves acknowledge that this is deleterious to training but there appear to be barriers to accessing appropriate support. Recognition and management of this risk is important for the mental health of trainees, the quality of their training and the safety of their patients' care.

Emergency Surgery 0206

A population-based comparative study of 30-day outcomes after appendectomy

W. Al-Khyatt[1], J. Mytton[3], F. Fleming[4], E. Griffiths[2], R. Vohra[1]

[1]Oesophago-Gastric unit, Nottingham City Hospital, Nottingham University Hospitals NHS Trust, Nottingham, UK, [2]Upper GI unit, Queen Elizabeth Hospital, University Hospitals Birmingham NHS Foundation Trust, Birmingham, UK, [3]Department of Information, Queen Elizabeth Hospital, University Hospitals Birmingham NHS Foundation Trust, Birmingham, UK, [4]Division of Colorectal Surgery, University of Rochester Medical Centre, New York, USA

Aims: The aim of this a population-based study was to compare markers of healthcare quality (30-day emergency readmissions and all reoperations) following appendectomy between populations from the USA and the UK.

Methods: Demographic and in-hospital outcome data were extracted from Hospital Episode Statistics (HES) and the New York Statewide Planning and Research Cooperative System (SPARCS) administrative databases for all patients aged 18+ years undergoing an appendectomy between April 09 and March 14. These included age, gender, ethnicity, admission 30 days before surgery, surgical intervention (open versus laparoscopic), day of the week the appendectomy was performed, operation year, and type of hospital (teaching versus non-teaching), pre-existing comorbidity. The primary outcome measures were emergency readmission and all emergency reoperation within 30-days of the index appendectomy. Univariate logistic regression was performed to model each independent variable on both 30-day readmission and 30-day reoperation rates. Adjusted multivariate logistic regression including country as a variable was built to test whether if country was a significant factor when testing for an effect on 30-day readmission and 30-day all reoperations.

Results: Overall, 188 418 patient records, 121 428 (64.44%) from HES and 66 990 (35.56%) from SPARCS, were extracted. Age, Charlson co-morbidity score, laparoscopy and admission 30 days before the appendectomy were independently associated with 30-day readmission in both datasets. All reoperations were higher if an admission occurred 30-days before the appendectomy and with Charlson co-morbidity scores, and significantly reduced if laparoscopy was performed and in non-teaching hospitals in both populations. Patients undergoing appendectomy from English NHS within the HES population had significantly higher risk of readmission (adjusted OR 2.70 (95% c.i. 2.58-2.83), P<0.001) and reoperation (adjusted OR 4.08 (95% c.i. 3.87, 4.30), *P*<0.001) at 30 days compared to those from the USA in the SPARCS population.

Conclusions: The risk of readmission and reoperation at 30 days was significantly higher in patients undergoing appendectomy from HES data in comparison to SPARCS population.

Cancer/ Surgical Oncology (GI) 0246

The use of serum Osteonectin as a screening marker for pancreatic cancer

G. Sgourakis[3], A. Papapanagiotou[2], D. Raptis[1], K. Karkoulias[1], S. Panchal[3]

[1]Red Cross Hospital, Athens, Attiki, Greece, [2]Biological Chemistry, University of Athens Medical School, Athens, Attiki, Greece, [3]Furness General Hospital, Barrow-In-Furness, UK

Aims: The molecular characteristics of pancreatic cancer (PC) are the only means of identifying new markers for early diagnosis. Laboratory evidence suggests that Osteonectin is significantly overexpressed in PC as compared with the normal pancreas and promotes the invasiveness of pancreatic cancer cells possibly in part by the induction of MMP-2 expression. This pilot study aimed to determine the feasibility of serum Osteonectin values being used as a screening tool for pancreatic cancer.

Methods: Blood samples for Osteonectin were collected from 15 consecutive newly diagnosed PC patients and 30 matched healthy controls. The two groups were matched according to age, sex, weight, height, diabetes, smoking and alcohol consumption. Serum Osteonectin levels were measured using an Osteonectin ELISA kit according to the manufacturer's instructions. Kruskal-Wallis test, ROC curves and power analysis were used for data analysis.

Results: Clinicopathological characteristics of PC patients and controls were comparable. Median/quartile range for cancer patients and controls were 282.9/288.5 ng/ml and 63.2/41.2 ng/ml respectively. Osteonectin values among groups differed significantly (p=0.002). Plasma Osteonectin >100.18 ng/ml selected by ROC curves demonstrated a sensitivity of 85%, specificity of 88%, and an estimate of area under ROC curve (accuracy) of 86% in predicting pancreatic cancer. In order to validate our results, we performed a Sample Size Calculation Two Means, independent t-Test: with alpha = 0.05, power = 0.95, (PC group mean: 307 ng/ml - control group mean: 147 ng/ml), common standard deviation = 244 ng/ml). The estimated minimum sample size would be 85 PC cases and 47 controls. An additional 20% would be added so as to include cases of hemolyzed samples and other exclusion causes.

Conclusions: It seems that a blood Osteonectin may be used as a screening tool for pancreatic cancer but much has to be done before it is validated by prospective studies.

Emergency Surgery 0719

Acute diverticulitis: risk of readmission and emergency surgery following an admission for acute diverticulitis

C. El-Sayed[1], S. Radley[2], J. Mytton[3], F. Evisson[3], S. Ward[1]

[1]University Hospitals Coventry and Warwickshire, West Midlands, UK, [2]University Hospitals Birmingham, West Midlands, UK, [3]University of Birmingham, West Midlands, UK

Aims: Diverticular disease is accountable for significant morbidity and mortality with the risk of diverticulitis between 10-25%. The risk of perforation has been quoted as 3.8 per 100,000 in Northern Europe. Current guidelines including the ACPGBI and ASCRS suggest elective resection should be individualized to each patient. Furthermore, guidelines advise resection should not be offered to patients age less than 50 years old as they are not at a higher risk of morbidity or mortality. We aimed to identify the risk factors associated with risk of readmission.

Methods: The study was conducted between April 2006 and March 2011 identifying 76,499 patients over the age of 18 with acute diverticulitis presenting as an emergency admission. All patients were followed up for 4 years. Patients were excluded if they had previously been diagnosed with acute diverticulitis in HES data, colorectal cancer, GI bleed or had undergone previous colectomy. Patients who had surgery or died during their index admission were also excluded. In total, 65,162 patients were included in the study.

Results: This is the largest study involving HES (Hospital Episode Statistics) data for diverticulitis. A mixed effects logistic regression model was used for the analysis adjusting for age, sex, deprivation, co-morbidities, smoking, disease severity, alcohol consumption, obesity and dyslipidaemia. The re-admission rate equalled 11.55% and 1.16% of patients were readmitted within 30 days. Significant findings included identifying an inverse relationship between age and risk of admission. Females were 46% more likely to be re-admitted ($p < 0.001\%$). Complicated diverticulitis increased the risk of re-admission (OR1.5 (0.95-1.12) $p<0.001$). Alcohol consumption also increased the risk of re-admission (0R1.5% (0.95-1.2%) p value <0.001%).

Conclusions: Risk of re-admission with acute diverticulitis decreases with older age, male gender and uncomplicated diverticulitis. This study illustrates elective surgery should be offered based on the individual's risk factors for readmission and complications of diverticulitis.