fluid therapy (NRFT) in patients undergoing laparoscopic and open colorectal surgery.

Methods A simple model was applied to evaluate the various variables reported in the published randomised, controlled trials comparing the role of RFT and NRFT by the use of principles of meta-analysis. The primary outcome measure was postoperative morbidity. Secondary endpoints were mortality and hospital stay. A random effects model was applied.

Results Seventeen randomised, controlled trials on 2165 patients were included. The incidence of postoperative morbidity (OR 0.84; 95% CI 0.57 to 1.24; z=0.90; =0.37) and mortality (OR 0.93; 95% CI 0.47 to 1.84; z=0.20; =0.84) was statistically similar following the use of either RFT or NRFT. In addition, both techniques of fluid therapy were associated with similar length of hospital stay (standardised mean difference, −0.12; 95% CI −0.55 to 0.31; z=0.53; p=0.59).

Conclusion This meta-analysis suggests that RFT in patients undergoing laparoscopic and open colorectal surgery does not offer any advantage over NRFT.

Competing interests None declared.

PWE-096 THE INVESTIGATION AND MANAGEMENT OF COLOVESICAL FISTULAE IN THE MODERN ERA—A SINGLE INSTITUTIONS 12-YEAR EXPERIENCE

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Introduction This aim of this study is to review how investigation and management of colovesical fistulae has progressed in our institution over a 12-year period and to propose a clear protocol to ensure prompt diagnosis and treatment in the future.

Methods A retrospective case note review was conducted of all patients with colovesical fistulae who underwent definitive surgery over a 12-year period. Variables collected include patient demographics, symptoms, investigations, operative data, histology, complications and length of stay.

Results 56 patients (38 male) underwent operative intervention for colovesical fistula. The most common symptoms are pneumaturia (69%), faecaluria (32%) and symptoms associated with recurrent UTIs (68%). Cystoscopy was the most accurate test to identify fistulae (91%) followed by CT (60%) and barium enema (31%). Two patients were unfit for major surgery and underwent palliative loop colostomies. The most common pathology was diverticular disease. Of the 54 remaining patients, 45% underwent laparoscopic resection with a conversion rate of 33% (due to adhesions or multiple abscesses). Sigmoid colectomy, (52%) anterior resection (30%) and hartmanns (9%) are the most common procedures performed. Bladder repair was required in 25% of cases with a further 16% requiring partial resection. All patients received a postoperative cystogram to ensure bladder had healed and 70% of patients were defunctioned to protect the anastomosis. There was no mortality reported peri-operatively; the anastomotic leak rate was 5% and recurrence rate was 5%. Median postoperative stay was 12.5 days (range 4–91) in the laparoscopic group and 16 days (range 6–62) in the open group.

Conclusion Surgical management for colovesical fistulae is effective and safe. Laparoscopic resections are increasing in popularity and deliver encouraging results comparable to open resection. A large multi-centre randomised controlled trial is required to validate its potential benefits over open surgery.

Competing interests None declared.

PWE-097 CLASSIFICATION OF PSEUDOMYXOMA PERITONEI AS LOW OR HIGH GRADE ACCORDING TO THE WHO CRITERIA IS PROGNOSTICALLY SIGNIFICANT

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Introduction The current WHO classification of tumours of the digestive system divides pseudomyxoma peritonei into two grades, namely low-grade and high-grade. This study was designed to correlate survival with low-grade and high-grade pseudomyxoma peritonei classified according to the WHO criteria.

Methods The histological slides of 274 consecutive patients were reviewed and designated as either low-grade or high-grade. The patients had been referred for cytoreductive surgery. The grade of the pseudomyxoma was correlated with survival data using the Kaplan–Meier method with the log-rank (Mantel-Cox) test.

Results 238 (87%) patients had low-grade lesions and 36 (13%) had high-grade lesions. The most common primary tumour was a low grade appendiceal mucinous neoplasm (231 cases, 84%). Seven patients who died within 30 days of their operation (a postoperative mortality of 2.6%) were excluded from survival analysis. Another patient was excluded because of incomplete survival data. The remaining 266 patients showed an overall 5-year survival of 63% in patients with low-grade pseudomyxoma peritonei and 23% in patients with high-grade pseudomyxoma peritonei ($p<0.001$). Complete cytoreduction was achieved in 165 (60%) patients; the 5-year survival for low-grade and high-grade was 84% and 48% respectively in this group ($p<0.001$). The median survival of patients who had complete cytoreduction was 7.7 years for low-grade and 2.8 years for high-grade ($p<0.001$).

Conclusion Histological classification of pseudomyxoma peritonei as low-grade or high-grade correlates with prognosis. This may identify a group who could benefit from further adjuvant therapy which is not generally advocated for appendiceal mucinous tumours.

Competing interests None declared.

PWE-098 *CLOSTRIDIUM DIFFICILE* DIARRHOEA—THE CHANGING HOSPITAL EPIDEMIOLOGY AND CLINICAL OUTCOMES FROM A HIGH PREVALENCE AREA IN NORTH EAST ENGLAND

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Introduction *Clostridium difficile* associated diarrhoea (CDAD) is an important hospital acquired infection. In 2008–2009 Co. Durham had one of the highest reported annual incidence of CDAD with 232 cases, 74.4 cases/100 000 bed days. Following strict antibiotic stewardship in 2009, we set out to examine the changes to the hospital based epidemiology of CDAD in our three hospitals over a 12-month period.

Methods Between June 2010 and May 2011, 70 patients with positive stool *C difficile* toxin were identified from the Microbiology database, and 56 case notes reviewed. Patient demographics, clinical symptoms, risk factors, severity, treatment for CDAD, and multi-disciplinary team decisions were recorded. Clinical outcomes

including length of stay, treatment, mortality, and relapses were analysed and compared to standard hospital episode statistics (HES).
Results The annualised hospital incidence of CDAD was 70/20 000 admissions, age range 2–100 yrs (mean 75.5, M: F). 76.8% patients were older than 70 yrs. 43% had received antibiotics prior to admission and 35 (62%) patients were commenced on antibiotics in hospital. The top 5 were Amoxicillin, Co-amoxiclav, Flucloxacillin, Cephalexin and Trimethoprim. 62% of these had received one course of antibiotic, and 30% two or more courses. 39% patients had a previous admission to hospital in the preceding 12 weeks, 46.4% were taking a PPI and 35.7% a laxative. *C difficile* was confirmed by both toxin and GDH positivity in 80.4%, and by toxin positivity only in 19.6%. Total length of stay ranged from 51 days (16%). A positive diagnosis was made in 80% patients, but severity was not always recorded. Stool charts were completed in 70%, serum lactate checked in 10% and abdominal x-ray done in 30%. Only 25% patients were seen by an MDT member. 78.5% pts were treated, 30/44 (68%) with Metronidazole and 11/44 (25%) with Vancomycin as first line drugs. 3/44 patients received both drugs initially. 30.4% pts received ≤7 days, 50% upto 14 days and 19.6% ≥14 days treatment. All cause mortality was 25%, almost entirely in the elderly. 7% had a recurrence, all treated by Vancomycin and pulsed/tapered regimes and probiotics were used infrequently.
Conclusion CDAD continues to be an important hospital acquired infection with a significant increase in hospital length of stay and high mortality rates, especially in the elderly. This study indicates that a significant proportion of CDAD may be acquired in the community. Adherence to national recommendations for management and involvement of the MDT needs to be encouraged to improve outcomes.

Competing interests None declared.

PWE-099 CONTRIBUTION OF SURGERY AND DISEASE SUBTYPE TO HEALTH RELATED QUALITY OF LIFE IN PATIENTS WITH LOCALLY ADVANCED AND RECURRENT COLORECTAL CANCER

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Introduction Management of patients with locally advanced (LA) and locally recurrent (LR) colorectal cancer is challenging, with patients frequently requiring complex multimodality interventions. Despite increasing emphasis on evaluation of health related quality of life (HRQoL) in patients having complex interventions, HRQoL information on patients with LA and LR colorectal cancer is sparse. The aim of this study was to prospectively assess outcome measures and HRQoL in a cohort of patients with LA and LR colorectal cancer at our institution.
Methods LA disease was defined as tumour requiring extended multi-visceral resection in the abdomen or pelvis to achieve an R0 resection. 45 consecutive patients were prospectively assessed over a 2-year period. Demographic, treatment, and cancer-related outcomes were recorded on all patients. Pelvic disease was staged using Leeds and Royal Marsden Hospital classification systems. HRQoL was prospectively evaluated using the EORTC generic and disease specific instruments QLQ-CR30 and QLQ-CR29.
Results Median age was 69 (range 46–89) and 60% were male (27/45). There were 25 cases of LA disease and 20 LR cases. 35 patients underwent surgery while 10 patients had non-surgical palliation. R0 resection rate was 94%. HRQoL data were available on 41 patients. Median global health status was 65 (95% CI 55.5 to 74.1), physical functioning 77 (95% CI 69.9 to 84.5), and social functioning 72 (95% CI 60.3 to 83.8), which compared favourably with published EORTC reference values. Global health status and pain were significantly better in patients having surgery compared to non-surgical palliation ($p<0.0001$ and $p<0.0004$). Assessment of individual function and symptom scales revealed no significant difference in HRQoL between LA and LR except for greater buttock pain in patients with LR disease.
Conclusion In carefully selected patients, HRQoL after radical multimodality treatment for LA and LR colorectal cancer is acceptable, and gives better results than palliation.

Competing interests None declared.

PWE-100 REPEAT TWO WEEK WAIT REFERRALS FOR SUSPECTED COLORECTAL CANCER

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Introduction The two week-wait pathway for suspected colorectal cancer (CRC2ww) ensures prompt review and investigation of patients with symptoms concerning for malignancy. Previous investigation of such patients does not preclude future repeat referral yet may not represent efficient use of limited clinic time or diagnostic services. This study aims to evaluate the incidence and outcome of repeat CRC2ww referrals.
Methods A retrospective review of all CRC2ww referrals to our unit over a 4-year period was conducted. Patients with previous CRC2ww referrals were identified from a hospital database. Referral indication and outcome for all referrals was collected.
Results 2731 CRC2ww referrals were made between July 2007 and July 2011, median age 72 (19–102), 1179 (43%) male. 273 cancers were identified including 212 colorectal cancers. 121 referrals were repeat referrals, with 77 made prior to July 2007, and a median 1087.5 (35–2709) days between initial and repeat referrals. Referral indication was the same in 55 (47%) cases. When compared to unique referrals, repeat referral were associated with increased age (79 years vs 71 years, $p<0.0001$) and increased proportion of females (69% vs 56%, $p=0.0048$). Six cancers, including two CRC, were identified following repeat referral with a median 1511.5 (477–1988) days between initial and repeat referrals. There was no statistical difference in cancer detection between unique or repeat referrals (5.2% vs 10.4%, $p=0.07$).
Conclusion Repeat referrals comprise a small proportion of all CRC2ww referrals. Such patients are older and more commonly female. However, cancer detection is not significantly lower in this cohort when compared to those not previously referred. Historical referral or investigation should not preclude future CRC2ww referrals and such patients should be investigated to the same extent as unique referrals.

Competing interests None declared.

PWE-101 HIGH DEFINITION ENDOSCOPY INCREASES THE NUMBER OF ADENOMAS DETECTED IN THE UK BOWEL CANCER SCREENING POPULATION

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Introduction Adenoma detection and removal is one of the main goals of colonoscopy. Improved adenoma detection has been shown