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Long-term results of combined laparoscopic sleeve gastrectomy and bowel bypass

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Introduction

The ideal bariatric surgery aims to achieve 70–100% excess weight loss in a maintained pattern. It should also be simple with low operative risks, have minimal side effects and maintain a satisfactory absorption of trace elements. The main bariatric procedures currently available include gastric banding, sleeve gastrectomy, gastric bypass and duodenal switch. Each of these procedures has some adverse outcomes such as dumping, lack of access to the remaining stomach and biliary system, and denied duodenal absorption. Our aim was to report the long-term results of a bariatric operation that was developed eight years ago.

Methods

A novel bariatric procedure was implemented to achieve the above aims. This includes a sleeve gastrectomy and a modified jejunoileal bypass procedure. A standard sleeve gastrectomy is performed using a 48Fr bougie with staples beginning 5cm proximal to the pylorus. The bypass procedure includes division of the small bowel, 75cm from the duodenojejunal flexure, and a side-side anastomosis to the ileum, 75cm from the ileocecal valve. Data were collected prospectively on 189 patients who had this combined technique between December 2004 and January 2013. All patients had clinical and biochemical follow-up.

Results

At the time of writing, 168 patients had completed their 2 years of follow-up. All operations were completed laparoscopically.

The mean patient age was 45 years. The mean weight was 144kg, giving a mean body mass index of 52kg/m². We achieved 76% and 77% excess weight loss at 12 and 24 months following surgery respectively ($p=0.02$). Vitamin deficiency occurred in only 10% of cases, with significant vomiting only in 5% ($p=0.04$). A deficiency in trace elements occurred in 24.6% while vitamin deficiency occurred in 29.2%. An 85% resolution of diabetes mellitus was also noticed and there was a 90% cure of essential hypertension. No changes were noticed in bowel habits in any of the patients, who all had normal liver enzymes.

Conclusions

Combined sleeve gastrectomy and bowel bypass is an ideal bariatric operation. It achieves good and maintained weight loss, no dumping, and leaves access to the remaining stomach and biliary system. It has minimal side effects, does not affect nutrient absorption in the duodenum and can be performed as a one-stage operation for morbidly obese patients with a body mass index of >50kg/m². Vitamin and trace elements deficiencies are corrected by simple oral supplementation. For patients who had vomiting, this lasted only for six months and was mild in nature.

A review of patient mortality in one health board

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Introduction

Following the publicity surrounding the Mid Staffordshire NHS Trust, hospital mortality rates have become a national concern. The Welsh government intends to publish organisational risk adjusted mortality indices (RAMI) as well as individual clinicians' mortality rates. A recent headline suggested that more than half of Welsh hospitals had a higher mortality rate than expected. There are considerable concerns regarding the data used for these analyses. Consequently, a mortality review was undertaken in our organisation to determine the accuracy of the data used.

Methods

A case note review of 220 consecutive deaths was undertaken where the predicted mortality was <25% according to CHKS. Data were collected by two senior consultants and a clinical summary was made of each case.

Results

The average age of death was 80 years (range: 37–99 years). The majority of deaths were patients aged >70 years and during this series, there were no unexpected deaths that required further in-depth analysis. A significant proportion of these patients had metastatic disease as well as do not attempt resuscitation orders, even when the predicted mortality was <10% according to CHKS.

Conclusions

This study of patients with a low expectation of death according to CHKS demonstrates a discrepancy between the predicted mortality and the clinical scenario. The vast majority of patients were very elderly with a variety of terminal diseases with a clinical prediction of death much higher than suggested by CHKS. This review questions the accuracy of the predicted mortality of patients and therefore the accuracy of the RAMI for the organisation. It follows that individual consultant data should not be published until RAMI data are considered accurate.

Negative appendicectomy rates and the diagnostic value of imaging in suspected appendicitis

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Introduction

Appendicectomy is the most commonly performed emergency general surgery operation. Despite the frequency of presentation and availability of radiology, accurate diagnosis of appendicitis remains challenging. The aim of this study was to determine the negative appendicectomy rate (NAR) by two histological criteria over a 12-month period, and to examine the diagnostic values of ultrasonography and computed tomography (CT) in patients undergoing appendicectomy.

Methods

A retrospective audit was carried out of appendicectomy cases between August 2011 and September 2012 in a single centre. Cases were identified by searching theatre records. A database was compiled of patient age, sex and surgical approach. Histology reports for each case were examined against strict (ST) and soft (SO) histological criteria for a diagnosis of appendicitis. The NARs for strict (ST-NAR) and soft (SO-NAR) criteria were calculated. Radiology databases were examined to determine which patients had ultrasonography or CT prior to appendicectomy and whether the radiological findings correlated with the histology. Standard measures of diagnostic accuracy were calculated for both modalities.

Results

A total of 251 appendicectomies were identified, of which 150 cases were male. The median patient age was 25 years (range: 6–90 years). Of the 251 cases, 182 were performed by open technique (17 midline incision) and 60 were laparoscopic (11 converted). Technique data were not available in nine cases. Female patients were four times more likely to have a laparoscopic procedure.

Overall, ST-NAR and SO-NAR were 20% and 14% respectively. For male patients, ST-NAR was 16% and SO-NAR was 10%. For female patients, ST-NAR was 27% and SO-NAR was 24%. ST-NAR and SO-NAR in patients who had no preoperative imaging were 19% and 13% respectively.

67 ultrasonography scans were performed in 42 women (42%) and 25 men (17%). For seven, this was not diagnostically informative and these cases were therefore excluded. ST-NAR and SO-NAR were 34% and 25% respectively. By strict criteria, the positive predictive value (PPV) was 87%, the negative predictive value (NPV) was 47%, sensitivity was 51% and specificity was 85%. By soft criteria, the PPV was 96%, the NPV was 37%, sensitivity was 51% and specificity was 93%.

41 CT scans were performed in 17 women (17%) and 24 men (16%). The imaging was diagnostically informative in all cases. ST-NAR and SO-NAR were both 7%. By ST and SO criteria, the PPV was 97%, the NPV was 40%, sensitivity was 92% and specificity was 67%.

Conclusions

The NAR is acceptable for both criteria but it is higher in women and patients who have had ultrasonography prior to appendicectomy. The diagnostic accuracy of imaging was not influenced by differences between ST and SO criteria for appendicitis. Both ultrasonography and CT have a high PPV for diagnosis of appendicitis although CT has much greater sensitivity.

Routine coagulation screening is an unnecessary step prior to ERCP in patients without biochemical evidence of jaundice

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Introduction

UK guidelines suggest that patients undergoing endoscopic retrograde cholangiopancreatography (ERCP) should have a coagulation screen within 72 hours of the procedure, especially if a biliary sphincterotomy is likely. We aimed to test the hypothesis that coagulation is rarely deranged in the absence of biochemical jaundice, making coagulation screening an unnecessary management step.

Methods

Analysis was undertaken of all ERCP procedures performed at our high volume tertiary referral centre between June 2011 and September 2012. Demographic data, pre-procedure prothrombin time (PT) and bilirubin levels were recorded for each patient. The indication and the nature of the procedure performed were also recorded. A total of 519 procedures were included in the analysis, with 55 patients excluded due to incomplete medical records, anticoagulation therapy or inherited coagulopathy.

Results

The final cohort was divided into two groups for analysis: jaundiced (any elevated pre-procedure bilirubin, $n=266$) and non-jaundiced (normal pre-procedure bilirubin, $n=253$). In the jaundiced group, 17 patients (6%) had a significantly prolonged PT (equivalent to an international normalised ratio of ≥ 1.5). None of the patients in the non-jaundiced group had a significantly prolonged PT and only 15 (6%) had a mildly raised PT ($1 < x < 1.5$), with none of these suffering bleeding complications. There was a statistically significant difference in mean PT between the jaundiced and non-jaundiced groups (12.9 seconds vs 11.1 seconds, $p < 0.001$). The indications and ERCP procedures performed were equivalent for the two groups.

Conclusions

Our data suggest that patients with normal bilirubin levels prior to ERCP rarely have deranged coagulation suggestive of acquired coagulopathy. In patients with a negative bleeding history and normal liver function tests undergoing ERCP, we suggest that coagulation screening is an unnecessary investigation. Focused coagulation screening for high risk patients could lead to a potential annual saving of over £370,000 in the UK.

A retrospective study of difficult leg ulcers treated in a combined vascular surgery and wound healing unit

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Introduction

Chronic leg ulceration (ulceration of >12 weeks) has an impact on health related quality of life for patients and also imposes a considerable burden on the health system, with up to 5% of the total health budget of the National Health Service spent on this problem. The most common types of ulcers involve chronic venous insufficiency, arterial insufficiency or diabetes with insensate neuropathy. The aim of this study was to establish whether a specialist vascular

surgical unit, with an interest in wound healing, can provide an effective service to heal difficult/chronic leg ulcers.

Methods

The notes of all patients presenting to the combined wound healing/vascular surgical department with a leg ulcer of a duration of >12 weeks were examined. Data were collected on demographics, risk factors for leg ulceration, ulcer aetiology and duration, investigations, number and length of admissions, interventions and amputations.

Results

Over 1 year, a total of 100 inpatients (123 limbs) and a further 176 outpatients with chronic leg ulcers were referred to the service. Of the inpatients, 63 were unknown to the department and 47 were already known to have ulcers before 2011. Aetiology included mixed ulcers (37%), neuroischaemic (14%), pure venous (26%), pure arterial (8%) and neuropathic (15%). Fifty-five per cent were foot and ankle while forty-five per cent were leg/gaiter ulcers. Common risk factors included diabetes (55%), smoking (19%), body mass index $>30\text{kg/m}^2$ (18%) and hypertension (69%).

Interventions included compression and antibiotic therapy, surgical debridement, split skin grafts, angioplasty and arterial bypass grafting. The median follow-up duration was 414 days (range: 252–611 days). Following intervention by our department, the overall healing rate was 51% (45% foot ulcers, 64% leg ulcers). Nine per cent had a major amputation (above or below knee) and twenty-three per cent had a minor amputation. The overall mortality rate was 22%.

Conclusions

The availability of a specialist vascular surgery and wound healing unit has provided a service that heals chronic ulcers of any aetiology by providing a wide range of therapeutic options that are not normally available in a single department. Although this means prolonged hospital admissions and a significant resource allocation on behalf of the health board, it results in good rates of wound healing, low recurrence rates and reduced major amputation rates.

Reoperation rate as a quality marker for elective colorectal surgery

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Introduction

Postoperative mortality is currently one of the most widely used markers of quality. However, it does not identify

potentially preventable death. Reoperation rates have been suggested as a useful quality marker in colorectal surgery. A recent national audit of 246,469 patients using all English Hospital Episodes Statistics data over a period of 8 years found a reoperation rate of 6.2% (0–50%) for elective colorectal resection. The data were collected retrospectively and show a wide range of variation in the reoperation rate.

Methods

A retrospective analysis was carried out of a prospectively maintained database of all patients undergoing elective colorectal resections, under a single surgeon, between August 2002 and February 2015. Patients who returned to the theatre suite within 30 days of their index operation were identified. Factors that may influence reoperation rates (eg age, sex, pathology, previous surgery, metastatic disease, rectal resection, neoadjuvant therapy, conversion, body mass index, ASA [American Society of Anesthesiologists] grade and laparoscopic surgery) were studied. Statistical analysis was performed using Fisher's exact test.

Results

A total of 484 patients (264 males, 262 laparoscopic) underwent elective bowel resections. The median patient age

was 70 years (range: 24–95 years). The conversion rate was 10.3% ($n=27$). Twenty-nine patients (6%) returned to theatre within thirty days. There were two additional patients who had reoperation due to bleeding from staple lines and the inferior mesenteric artery before leaving the theatre room. The most common cause for return to theatre was anastomotic leak (6/29, 20.7%), followed by burst abdomen (5/29, 17.2%) and wound collection (3/29, 10.3%). There was also a single case of secondary haemorrhage. There were two revisions of stoma, two internal hernias and one port site hernia in the laparoscopic group. There was no statistically significant effect for the studied variables on the reoperation rate.

Conclusions

The reoperation rate in this study is comparable with the English audit. We recommend prospective data collection of return to theatre in all Welsh hospitals. This quality indicator, checking the performance against the national standards, may be a key quality assessment for future improvement.