



NZAGS 2019 Poster Presentations

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Abdominal Wall Closure In Midline Laparotomy: What's The Best Method?

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Abstract

Introduction

Laparotomies are the most preferred method of abdominal surgical exposure for decades in most surgical centres. It is associated with risk of developing incisional hernia in the range of 5 to 20 percent. In this systematic review, we evaluate various closure techniques & the use of abdominal mesh for closure in certain high-risk patient groups.

Methods

A thorough systematic literature search was performed until December 2018. Only articles in English language were included. Database search includes PUBMED, MEDLINE, Ovid & Cochrane review. This search was done electronically & the use of Otago University library catalogue journal search. Inclusion criteria were elective cases, laparotomy incision only & involves any types of disease pathologies. All articles, journals & RCTs was evaluated, data tabulated in worksheet & data analysed.

Results

Approximately 30 RCTs were determined to be appropriate for literature search & analysing. The use of slowly absorbable suture material for mass closure using smaller bites resulted in significantly less incisional hernias than standard conventional larger bites techniques. Prophylactic mesh usage in abdominal closure for certain high-risk patients also propagated lesser incisional herniation rates.

Conclusion

Small bites mass closure technique can be recommended to reduce the rate of incisional hernia & the additional use of a prophylactic mesh in high risk patients can significantly reduce the occurrence of incisional hernia after a laparotomy wound exposure.

Discharges From General Surgery With Non-Specific Abdominal Pain: Where Do They End Up?

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Abstract

Aims

Abdominal pain is a common presentation to general surgical departments. Previous studies in the same institution have shown that around 40% of patients presenting with abdominal pain are given a diagnosis of non-specific abdominal pain (NSAP) and that the incidence has increased over the last decade. The aim of this study was to identify in what proportion of those discharged with NSAP is the diagnosis later changed and whether this leads to adverse outcomes.

Methods

Data was obtained from a prospectively collected database containing all patients that presented with abdominal pain to the general surgery department between 1st December 2016 and 30th April 2017. The electronic clinical notes of patients who were diagnosed with NSAP during that admission were retrospectively reviewed. Data was collected about the initial presentation (use of imaging and treatment) and management of the patient after discharge (clinic follow up, outpatient imaging, further admissions).

Results

Ninety-eight patients were included, follow up was between 15 and 20 months from discharge. Forty-three (44%) of the patients had no further investigations and did not re-present to the emergency department with the same problem. Of the remaining 55 patients 71% re-presented to the emergency department, 55% were followed up in clinic, 33% had additional imaging (CT or ultrasound scan) and 18% had an outpatient endoscopy. In only five patients (9%) did any of this lead to a change of diagnosis and in none was there a significant change in clinical outcome.

Conclusions

Just over half of the patients discharged with NSAP re-present to the hospital or have further investigations for similar pain. Despite the additional cost in time and money this leads to a change in diagnosis in a small minority and does not change the clinical outcome. On this basis clinicians discharging and patients being discharged with NSAP can be reassured.

Too Young To Be Screened: A Retrospective Analysis Of Colorectal Cancer Patients Under 60 Years In The Wellington Region

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Aims

Colorectal cancer remains the second highest cause of cancer death in New Zealand and a national screening programme has recently been introduced for patients aged 60-74. This study aims to analyse a group of younger patients that fall outside of the screening population to identify differences in their characteristics and clinical course and evaluate potential delays to diagnosis.

Methods

Data was obtained from electronic clinical records of all patients with a new histological diagnosis of colorectal adenocarcinoma between 1st January 2016 and 1st December 2018 that were treated at Wellington Hospital. Patient demographics, tumour characteristics and staging, referral timing, presenting symptoms and duration were compared between two groups – patients <60 years and ≥60 years.

Results

A total of 334 patients were included with a mean age of 68 years. Twenty-one percent were <60 years. At the time of diagnosis patients <60 had higher rates of both distant metastasis (35.7% vs 21.6%; $p<0.05$) and nodal disease (54.2% vs 35.8%; $p<0.05$). There was no significant difference in T staging. There was no difference in presenting symptoms, symptom duration prior to referral (<60, median 8 weeks; ≥60 median 6 weeks), or time from referral to first specialist appointment (<60, median 11 weeks; ≥60 median 15 weeks). We also found a difference in the rate of emergency presentation (<60, 28.2%; ≥60 17.1%; $p<0.05$). There was no difference in presentation with an obstructing tumour at colonoscopy (<60, 24.2%; ≥60 20.3%).

Conclusion

This study supports the literature that younger patients are diagnosed with more advanced stage disease. We have not found that this is attributable to a delay in diagnosis based on duration of symptoms prior to referral or time to see a hospital specialist.

Streamlining Abscess Management

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Abstract

Background

Cutaneous abscess is one of the most commonly seen general surgical conditions. It is most effectively managed in the operating theatre with incision and drainage. Despite short individual surgical time, the significant number of abscess cases often uses a major portion of the daily acute operating time. The aim of the study was to implement a system (fast-track abscess pathway with criteria-led discharge process) that would reduce both preoperative and post-operative time for those patients undergoing treatment of cutaneous abscess.

Methods

A prospective review was performed on patients presenting acutely to Waitemata District Health Board between July 2018 and October 2018. The data was gathered using the QLIK database. Patients with cutaneous abscess with ASA of II for lower were recruited into a fast-tracked abscess pathway and were included in the criteria led discharge process. Follow-up was for 28 days postoperatively. The prospective data were then compared to baseline review of a one-year period prior to commencement of this study. The primary outcome was length of stay, with readmission rate measured as a secondary outcome. Patient feedback was collected to assess patient satisfaction via a phone interview.

Results

56 patients were evaluated. The average length of stay was 24 hours (median 13 hours, range 6-191 hours) from admission to discharge. Compared to a baseline review, this was a 19 hours length of stay reduction (p -value=0.001). Fast-track abscess pathway patients had a higher readmission rate at 7% compared to 4% for baseline patients but further analysis showed that only half of these were related to the primary surgical pathology. The feedback from consenting patients was positive universally.

Conclusions

Streamlining abscess management significantly decreased average hospital length of stay for cutaneous abscesses, whilst maintaining patient satisfaction. This study demonstrates that a simple shift in culture and perception of this common disease can lead to significant improvements.

An Evaluation Of The Use Of A Two-Tier Trauma Team Activation System To Improve Time To CT In Blunt Trauma

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Abstract

Aim

To evaluate time to Computed Tomography (TtCT) as a key performance indicator of hospital care in blunt trauma and to evaluate differences in this key performance indicator between a one-tier trauma activation system (TTAS) and a two-tier (TTAS).

Methods

All consecutive blunt trauma patients presenting to Christchurch public hospital (CPH) between 01/06/2016 to 05/05/2018 were retrospective reviewed through the newly established trauma registry and TtCT ascertained. There was change from a one-tier TTAS to two-tier TTAS at CPH on 01/02/2017. We performed univariable analysis and compared differences in TtCT between the two TTAS.

Results

We recruited 503 blunt trauma patients who met the inclusion criteria for the study period. 161 patients were recruited during the one-tier TTAS period with a median TtCT of 131 minutes overall and 96 minutes for patients who met criteria for Trauma call activation (TCA). Following a change to a two-tier TTAs, 341 patients met the inclusion criteria with a median TtCT of 77 minutes overall and 59 minutes for patient who met criteria for a TCA. There was statistically significant reduction in TtCT for trauma call activated patients of 32 minutes (95% CI: 21 - 45 minutes) during the two-tier TTAS. A higher percentage of TCA patients met the national standards of diagnostic imaging within 2 hours of arrival in the two-tier TTAS compared to the single-tier TTAS (70% vs 46%).

Conclusions

This study supports the use of a two-tier TTAS in hospitals looking to establish a new trauma service. It also highlights the time and labour-intensive process of a trauma call in a tertiary hospital and the importance of allocating this life saving resource efficiently. Despite the retrospective limitations of this study, the use of a trauma registry facilitates evaluation of current practice and further areas for improvement.

Patients Requiring An Acute Operation: Where Are The Delays In The Process?

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Abstract

Aims

Delays to surgery for patients requiring an acute operation are associated with increased morbidity and mortality (North, 2013). The aim of this study was to evaluate the patient's progress from presentation to arrival in the operating theatre and to identify where delays occurred.

Methods

Patients undergoing acute general surgery between July 2016 and May 2017 were studied. Data were obtained for time of presentation, imaging, booking for theatre and arrival to theatre. A time interval from presentation to booking for theatre of greater than 6 hours was defined as a diagnostic delay. A time interval from booking to theatre greater than the category defined time (four-level priority system) was defined as a logistic delay.

Results

A total of 683 patients were included. A diagnostic delay was observed in 55.1%. This occurred more frequently in patients who required imaging prior to their operation (82.5 versus 41.1%, $P < 0.001$). Logistic delay occurred in 31.0% of the patients, and this was most common for patients booked as a category 3 (requiring surgery within 6 h, 41.8%, $P < 0.001$). Patients who had a diagnostic delay were significantly more likely to have a post-operative complication compared to patients who did not (17.2 versus 10.0%, $P = 0.009$).

Conclusion

There are significant delays associated with patients presenting to the acute general surgery service and their transition to theatre. Addressing both the diagnostic and the logistic delays in our institution should result in a significant improvement in patient care.

References

North JB, Blackford FJ, Wall D et al. Analysis of the causes and effects of delay before diagnosis using surgical mortality data. *Br. J. Surg.* 2013; 100: 419–25.

Is There A Need For A Routine Defunctioning Ileostomy For Low Anterior Resections?

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Abstract

Aim

The consequences of an anastomotic leak in a low anterior resection are significant. Unlike a high anterior resection where salvage and reconstruction of GI continuity in the future is much more feasible, the formation of an anastomosis below the peritoneal reflection is less so. In our institution, a defunctioning ileostomy is routinely performed in an ultralow anterior resection but for those anastomoses that are fashioned well above the pelvic floor, but below the peritoneal reflection, the need for routine defunctioning ileostomy is less clear. The following study was therefore to investigate the rate of anastomotic leak following low anterior resection at Waikato Hospital, and the potential risk factors.

Methods

A retrospective review of all patients who had a low anterior resection at Waikato Hospital between 2010 and 2017 was carried out. Data collected included demographic factors, comorbidities, indication for surgery, neoadjuvant therapy in the context of cancer, technical factors, complications and reoperation rates.

Results

There were 47 patients who were classified as having a low anterior resection. Twenty one patients had a defunctioning ileostomy. A total of 7 patients had an anastomotic leak - 3/21 of those that were defunctioned and 4/26 of those that were not defunctioned. The rate was not significantly different whether or not a defunctioning ileostomy was performed. Neoadjuvant therapy was the only risk factor found to be associated with a higher leak rate.

Conclusions

There was no difference in the risk of an anastomotic leak whether or not a defunctioning ileostomy was performed after a low anterior resection. The need for a defunctioning ileostomy should therefore be individualized.

Timing Of Cholecystectomy Following Emergency Admission With Gall Stone Related Disease In A Provincial New Zealand Hospital. Is It Time For Change?

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Abstract

Aims

To evaluate the timing and outcomes of cholecystectomy following emergency admission with gallstone related disease within our provincial New Zealand hospital and compare this with current practice and guidelines.

Methods

All patients who underwent cholecystectomy between January 2015 and December 2017 at Taranaki Base Hospital were identified via clinical coding records. Case notes were reviewed and data was entered into an Excel spreadsheet for analysis.

Results

323 patients underwent cholecystectomy during this period. 6 cases were excluded due to non-gallstone related pathology or incomplete data. 193 patients presented via an index emergency admission. 21% (17/81) of patients who presented with cholecystitis underwent cholecystectomy on the index emergency admission. 0% (0/46) of patients who presented with acute pancreatitis underwent cholecystectomy on the index emergency admission. The remaining 166 patients who did not undergo surgery on the index admission were operated on in a median of 65 days (range 0-1129 days). Demographics, operative times and complication rates were similar between index and delayed cholecystectomy groups. There was no difference in time to discharge on the index admission between operated and non-operated patients. Delay in cholecystectomy resulted in a total of 69 further acute readmissions including 20 patients with acute pancreatitis and 97 further admissions for delayed elective surgery and in total 571 hospital bed-days.

Conclusions

There is no difference in operative outcomes for those patients having index as compared to delayed cholecystectomy following emergency admission. Delaying cholecystectomy results in increased morbidity and use of hospital resources. We are a small hospital and our emergency workload does not seem to justify a dedicated surgeon of the day who could operate on these cases. We have introduced a system where these cases are added to routine lists and plan to re-audit the outcome in the near future.

Appendiceal Neoplasia In Surgical Specimens: A Single Institution Experience Of 3526 Operations Involving Appendiceal Resection

Authors List

Eastment, Jacques. Princess Alexandra Hospital, Brisbane, Australia. Kong, Joseph. Princess Alexandra Hospital, Brisbane, Australia. Morris, Bradley. Princess Alexandra Hospital, Brisbane, Australia.

Abstract

Aims

Appendiceal neoplasia (AN) is rare and usually diagnosed after appendicectomy for appendicitis. It has proved difficult to ascertain which histopathological subtypes occur most frequently. The aim of this study was to determine the incidence of AN and identify the number of these tumours presenting as episodes of acute appendicitis.

Methods

This is a retrospective case control study of all consecutive appendicectomies from a major teaching quaternary hospital between 2005-2017. A systematic search of a histopathological database was completed to identify adult patients who had surgically removed tumours of the appendix vermiformis. All surgical specimens of the appendix were assessed including those from right-hemicolectomies, colectomies, appendicectomies and other surgeries involving appendix resection.

Results

A total of 4131 histological reports were identified between 2005-2017. After manual evaluation, 607 of these were excluded from analysis. AN was present in 178 of the remaining 3526 specimens (5%). The pathological breakdown of these neoplastic lesions was: 72 adenomata (40%), 31 carcinoid tumours (17%), 25 hyperplastic polyps (14%), 13 low grade mucinous tumours (7%), nine mucinous adenomata of uncertain potential (5%), eight adenocarcinomata (5%), six goblet cell carcinoid tumours (3%), six mucinous appendiceal adenocarcinomata (3%), five mucinous adenomata (3%), one lymphoma (1%), one mucinous tumour of low malignant potential (1%) and one high grade appendiceal mucinous neoplasm (1%). The average age of patients with appendiceal neoplasia was 56 years. The most common surgery was appendicectomy (55%). Acute appendicitis was the presenting complaint in 46% of patients diagnosed with AN.

Conclusion

From a large cohort of patients, we ascertained that AN is rare and difficult to diagnose. Including appendix specimens from operations other than simple appendicectomies results in a higher incidence of AN than previously reported. Treating surgeons should always have a high level of suspicion that an abnormal appearing appendix may contain an underlying tumour.

Registrar Research Projects At NZAGS: Converting Presentations Into Publications.

Authors List

Paul Fagan General Surgical Trainee Royal Australasian College of Surgeons, New Zealand

Abstract

Aims

The aim of this paper was to assess the rate at which registrar presentations at the NZAGS annual meetings are being converted into publications.

Methods

A review of the conference handbooks from the NZAGS annual meetings from 2008 – 2018 was performed. All registrar presentations from research performed at New Zealand centres were included. The presentation title and author was searched in both Pub Med and Google Scholar, if no matches were found the author was searched separately to include similar titled publications on the same subject.

Results

300 total presentations were included with 116 oral presentations and 184 poster presentations. 179 presentations were from tertiary centres, 98 from provincial centres and in 23 cases the centre was not recorded. The overall publication rate was 31% (93/300). Oral presentations were published more frequently than posters (40% (46/116) vs 26% (47/184). Research from peripheral centres were significantly less likely to be converted into a publication than those from a tertiary centre 18% (18/98) vs 41% (74/179) OR 3.13 (CI 1.73 – 5.65 p=0.0002) The publication rate has increased 7% when comparing the conferences from two separate 5 year time periods (2008 to 2012 and from 2013 to 2017).

Conclusions

Only approximately one third of presentations are being converted into publications, which is similar to General Surgery papers at the RACS annual scientific congress¹. Registrars in peripheral New Zealand centres are significantly less likely to go on to convert this research into publications compared to their colleagues at tertiary centres. The overall publication rate is increasing over time.

References

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Use Of Laparoscopic Jejunostomy Tubes To Maintain Nutrition During Neoadjuvant Treatment For Patients With Oesophageal Cancer – Is It Safe And Effective?

Authors List

Green, H. Mid Central DHB, Palmerston North, New Zealand Gordon, A. Mid Central DHB, Palmerston North, New Zealand Young, M. Mid Central DHB, Palmerston North, New Zealand

Abstract

Background

The majority of patients with oesophageal cancer have significant weight loss and malnutrition. Neoadjuvant treatment consists of chemotherapy, radiotherapy or a combination of both. Maintaining nutrition during neoadjuvant treatment can be difficult. Feeding jejunostomy insertion is an option for administering enteral nutrition during neoadjuvant treatment but there is little published data as to its safety and efficacy.

Methods

Using a prospectively maintained database all patients who underwent oesophagectomy for oesophageal cancer from July 2010 to March 2018 at Palmerston North Hospital were identified. Patients who did not have neoadjuvant treatment were excluded from analysis.

Results

Forty-nine patients were included. Of these, 13 had laparoscopic feeding jejunostomy tubes inserted. Nine patients (69%) developed jejunostomy related complications. Complications included local infection (6), dislodgement (2), blockage (1), intolerance of enteral feed (1) and mechanical obstruction (1). The majority of complications were Clavien-Dindo grade I-II, and one patient required operative intervention. No statistically significant difference was found in pre and post neoadjuvant therapy weight for patients with feeding jejunostomy tubes compared to those without. However, there was a trend towards weight gain in the jejunostomy group (average gain 2.2kg, $p=0.0845$) and weight loss in the group without enteral feeding (average loss 0.8kg, $p=0.57$). Patients in the jejunostomy group had a lower serum albumin at baseline compared to those without feeding tubes, however, this group maintained their serum albumin during neoadjuvant therapy (35.70 pre vs 33.13 post, $p=0.0747$). There was a significant decrease in serum albumin during neoadjuvant therapy in patients with no feeding tube (40.75 pre vs 38.46 post, $p=0.0027$).

Conclusions

Although not statistically significant this study shows a trend towards maintained or improved nutrition in patients who receive enteral nutrition via feeding jejunostomy during neoadjuvant treatment. This potential benefit must be weighed against the relatively high complication rate associated with jejunostomy tubes.

Ethnic Variation In Phyllodes Tumour Characteristics In The Auckland Region

Authors List

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Abstract

Aims

New Zealand's diverse population consists of multiple ethnic groups, including New Zealand European (74%), Māori (14.9%), Asian (11.8%), Pacific Island (7.4%) and Middle Eastern, Latin American or African (MELAA) (1.2%). Phyllodes tumour is a rare breast pathology and little is known about risk factors associated with this tumour. We hypothesise that within New Zealand's population, there appears to be a higher proportion of patients with Phyllodes tumours within ethnic minority groups.

Methods

We retrospectively reviewed the electronic clinical data of all patients at Middlemore Hospital, Auckland City Hospital, and North Shore Hospital with a new histological diagnosis of Phyllodes tumour from January 2008 - December 2018.

Results

Over the last ten years, there were 162 patients diagnosed with Phyllodes tumours in the Auckland public system. 33% were European, 29% were Asian, 19% were Pacific Islanders, 15% were Māori, and 4% were MELAA. 65% of tumours were benign, 23% were borderline, and 12% were malignant. Asian and Pacific Islanders were found to have larger tumours compared with other ethnicities ($p < 0.019$ and 0.0042 respectively). In this cohort, size was related to the grade of the tumour. Borderline and malignant tumours had a larger tumour volume compared with benign ($p < 0.0012$ and < 0.0001 respectively). Pacific Islanders presented at a much younger mean age of 37 years compared with other ethnicities ($p = 0.14$).

Conclusions

This represents the largest series in Australasia for Phyllodes tumour. Pacific Island and Asian patients have a higher risk of developing larger, higher grade Phyllodes tumours than other ethnicities. Pacific Island patients may present at a younger age than other patients. Furthermore, there is an over-representation of Pacific Island and Asian patients in this cohort, compared to the proportion of these ethnicities in New Zealand. More studies are needed to explore genetic or environmental factors that could contribute towards these findings.

Optimising In-Patient Stays For Surgical Patients - An Analysis Utilising The Red And Green Bed Days Management System

Authors List

Dr Odette Hart, Waikato Hospital, New Zealand Mr Christopher Holdaway, Head of Surgery, Waikato Hospital, New Zealand

Abstract

Introduction

Red and green bed days is a hospital management system recently implemented within the National Health Service UK to identify delays during in-patient stays. Red days are recorded when no activity occurs to progress a patient towards discharge. This study identified the number and causes of red days for a subset of surgical patients, to highlight areas for improved efficiency.

Methods

From June 2018, 100 consecutive in-patient stays were recorded within the vascular department at Waikato Hospital. A 'green day' occurred when planned care for that day was achieved. A 'red day' occurred when a patient received only care that did not require an acute bed. Causes of the delays were identified.

Results

Overall 703 in-patient days, with 443 (63%) green and 260 (37%) red days were recorded. Patients aged 60-69 and 70-79 had the highest portion of red days (30% and 25.8% respectively). Patients with critical limb ischaemia (CLI – chronic or acute) experienced 77.3% of red days (58.1% and 19.2% respectively). Wound dressings unable to be managed in community made up 31.9% of red days (including VAC 17.7% and topical 14.2%). Awaiting interventional procedure totalled 24 red days (9.2% of red days) and acute theatre 23 red days (8.8%). Delays to ultrasound and rehabilitation resulted in 22 red days each (8.4%).

Conclusions

These significant delays result in substantial financial burden and reduce patient quality of life, as 260 days were spent delayed in hospital rather than home with family. Focus areas are advancements in community dressing-care, access to ultrasound, acute theatre, and rehabilitation. Early identification of patients at risk of delays (age 60-80, with CLI) ensures the treating team work preventatively to optimise care. This study can be used as pilot for other surgical departments to identify areas of inefficiency.

Use Of Multidetector CT Angiography In Diagnosis And Management Of Lower Gastrointestinal Bleeding: A Preliminary Report Of A Single Center Case Control Study

Authors List

Hajar Hasan Kheslat, Dr Alex Papachristos and Mr Jacob McCormick

Abstract

Aims

To identify the clinical characteristics of patients with lower gastrointestinal bleeding that predict their likelihood of having a positive multidetector CT angiography (MDCTA) in phase one. And to use those characteristics to derive a risk assessment tool in managing patients with lower gastrointestinal bleeding (phase 2).

Methods

Retrospective case control study of adults with presentation of lower gastrointestinal bleeding to the Royal Melbourne Hospital between January 2005 and June 2018. Several clinical characteristics such as age, history of diverticular disease, ongoing in department bleeding, haemodynamic instability and transfusion requirements were assessed in phase 1. In phase 2 a simple risk stratification tool based on the characteristics which predicted a positive MDCTA will be developed.

Results

77 patients with positive MDCTA and LGIB were identified. For each positive MDCTA, a control patient with negative MDCTA was selected. Occurrence of ongoing lower GI bleeding (13% vs 2.6% in positive MDCTA group vs control $p=0.01$) and haemodynamic instability (15.6% vs 5.2% in positive MDCTA group vs control $p=0.03$) were identified as positive predictors of a positive MDCTA.

Conclusion

Ongoing bleeding and haemodynamic instability should be important considerations in deciding whether a patient should have a MDCTA.

A Novel Nutrient Recycling Device For Gastrointestinal Fistulas And Stoma: Design And Feasibility Study

Authors List

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Abstract

Aims

Enterocutaneous fistulae and high-output enterostomies often require intensive medical support, and are a frequent cause of intestinal failure and prolonged hospital stay. Refeeding fistula and stoma output has been recognised as beneficial in previous studies. Implementation into clinical practice has been limited, as current methods are unpleasant and labour-intensive. This project aimed to develop and test a novel refeeding device to enable easy recycling of fistula/stoma losses.

Materials & Methods

The novel refeeding device comprises a compact impeller connected to a commercial feeding tube which is inserted into the distal intestinal limb. The pump is activated across the stoma appliance via magnetic coupling to an electrically-operated motor, effecting pumping whilst avoiding effluent contact. Nutritional, medical, psychological and human-use factors were evaluated in a feasibility trial (n=10). Patients were trained in device use and asked to recycle at least daily over a three-week period. Data encompassed phone interviews, device diaries, blood panels, weight and admission statistics. The device was iteratively improved throughout the trial.

Results

The novel device for refeeding high-output fistulae and stoma patients was successfully validated on benchtop tests then trialled in 10 patients. Indications for inclusion included remediation for high output stoma, weaning from TPN, and gut rehabilitation prior to re-establishment of bowel continuity. A range of chyme viscosities were successfully recycled following iterative device improvements. Preliminary data shows that patients experience a variety of benefits from device use including reduced stoma losses (>65% volume), weaning of parenteral nutrition, improved renal and liver function as well as potassium and magnesium levels, and improved quality of life.

Conclusions

A novel nutrient recycling device was developed and shown to be feasible in clinical practice. The device has shown benefits in enhancing nutrition, improving surgical outcomes and reducing costs of care for these complex patients. Further validation is in progress.

Is There A Learning Curve For Surgical Rib Fixation Of Serially Displaced Rib Fractures?

Authors List

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Abstract

Introduction

The learning curve in surgery can be defined as the time or number of procedures an average surgeon requires to be able to perform the procedure independently with a reasonable outcome. Currently there is limited data on the learning curve for surgical rib fixation. The authors attempt to understand and determine the learning curve for surgical rib fixation.

Methods

The authors' institution has a robust multidisciplinary protocol for early surgical intervention in chest trauma. A retrospective analysis was performed on 10 patients requiring surgical rib fixation, performed by the trauma fellow (TF) and/or attending surgeon (AS). The outcomes compared between the TF and AS included; the number and anatomical positions of rib fixation, intraoperative time, and morbidity.

Results

The AS was the primary assistant in two of the first five anterolateral cases performed by the TF. The average time required by the TF to independently stabilize a minimum of four anterolateral rib fractures was 75 minutes versus 70 minutes for the AS. The TF progressed to fixation of the more anatomically challenging posterior rib fractures. Posterior stabilization was completed in 100 minutes by the TF and 90 minutes by the AS. There was a positive correlation between the number of cases performed and a decreasing operative time. Morbidity in the series consisted of one patient in the TF group, who required placement of a second intercostal catheter for hemorrhage control. Conclusion Preliminary data analysis of a small patient population suggests the surgical learning curve for anterolateral rib fracture fixation requires a minimum of five procedures. Data suggests a larger number of cases is required in the learning curve for posterior rib fixation. Teaching institutions that are considering the implementation of a surgical rib fixation competency for their surgical trainees may benefit from further analysis of a larger study sample size.

Rib Fractures In Christchurch: A Snapshot

Authors List

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Abstract

Aims

Rib fractures are common in blunt trauma and are a significant source of morbidity in multi trauma. Debate around disposition and uncertainty of management of chest trauma by subspecialities can lead to conflict in management and suboptimal care of patients. This study aims to review rib fracture burden and the impact of a formal trauma pathway at Christchurch Hospital over the last 3 years (2015-2017). It provides a baseline to measure the impact of the introduction of a dedicated Thoracic trauma management team (TTMT).

Methods

Patient admission data was obtained from clinical records retrospectively for all those coded with rib fractures from January 2015-April 2018.

Results

Over the last three years rib fractures, with or without associated injury, have accounted for an average of 400 admissions per year. Rib fractures affect all age groups with the majority (81%) of fracture admissions occurring in adults over 40 years old. Patients who presented to the hospital with rib fractures were managed by Cardiothoracics (23.3%), ED (22.4%), General Medicine (17.1%), Orthopaedics (13.7%), General Surgery (9.6%) and other specialities (13.9%). The average length of stay of rib fracture patients has significantly decreased from 8 days in 2015 to 6 days in 2017 ($p=0.0001$). 45 (3.2%) patients have undergone rib fixation over this time.

Conclusions

A new trauma pathway which stipulates surgical review and default surgical admission of all significant trauma was introduced in Christchurch hospital at the end of 2016 during the study period. Over this time length of stay of patients with rib fractures decreased and there was a trend towards more surgical admissions. In addition the TTMT, which reviews all rib fracture admissions weekly, was introduced in 2018. Ongoing audit is necessary to measure the impact of these changes on patient care in the early and later stage.

Can Normal Inflammatory Markers Help Rule Out Appendicitis? - A Multicentre Study

Authors List

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Abstract

Purpose

To determine whether a clinically significant number of patients have appendicitis with a normal White cell count (WCC) and C-reactive protein (CRP). To conclude whether normal inflammatory markers should assist in ruling out appendicitis, and whether patient demographics are a factor.

Methodology

A multicenter prospective study was conducted in 2016. Patient's were recruited across 27 centres across Australia. These patient's underwent a laparoscopic appendectomy for suspicion of appendicitis. Variables including preoperative investigations and demographics were recorded. The data was analysed to determine whether there was a statistically significant relationship between histology and age, sex, BMI in the cohort with normal inflammatory markers.

Results

A total of 1189 patients were included. 125 patients had a normal WCC (<11) and CRP (<5) - 40% of these patients had appendicitis on histology. Data was extrapolated with WCC and CRP (will be presented in table format). Further analysis showed nil correlation between patient demographics - age, sex, BMI - and appendicitis within the cohort of normal WCC and CRP.

Conclusion

There is a clinically significant portion of patients who have appendicitis with normal inflammatory markers, therefore cannot be used to exclude appendicitis. We disagree with research suggesting patient's with normal blood tests are unlikely to have appendicitis¹, whilst providing a larger cohort to reaffirm that appendicitis remains a clinical diagnosis and clinicians should remain cautious of normal blood tests².

References

1. Sengupta et al. White cell count and C-reactive protein measurement in pateints with possible appendicitis. *Ann R Coll Surg Engl.* 2009; 9: 113-1152. Vaughan-Shaw PG et al. Normal inflammatory markers in appendicitis: evidence from two independent cohort studies. *JRSM Short Rep.* 2011; 2:43

Pelvic Exenteration For Locally Advanced And Recurrent Pelvic Malignancies: Case Series Of Early Experience At A Single Tertiary Referral Centre

Authors List

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2. School of Medicine, University of Notre Dame, Sydney, NSW, Australia

Abstract

Aim

Since the inception of radical pelvic surgery for management of locally advanced and recurrent pelvic tumours over 60 years ago, pelvic exenteration (PE) surgery has undergone considerable evolution. PE is best performed in appropriately resourced specialist centres. The development of a PE service at a tertiary referral centre presents several hurdles and challenges. As such, we report on our series and early experience.

Methods

A prospectively maintained PE database containing all clinicopathological and tumour-related variables for consecutive patients with locally advanced and recurrent pelvic malignancies managed by PE from May 2005 to October 2018, was reviewed retrospectively.

Results

Sixty-five patients underwent PE. Median age was 65 years (IQR 55-70 years) and 33 patients were male. Histologically, 54 were colorectal adenocarcinoma, 8 squamous cell carcinoma and 3 other. Median ASA was 2 (IQR 2-3). A median of 3 exenterative compartments dissected per patient including 24 anterior, 28 central, 48 rectal, 32 posterior and 56 lateral. Median operative time was 443 min (IQR 365-529) and blood loss was 1L (0.6 – 1.5 L). Of those treated with curative intent, R0 resection rate was 88.7%. Median length of ICU/ HDU and hospital stay was 3 days (IQR 3-4) and 18 days (IQR 11-27) respectively. Twenty-eight (43%) patients sustained a Clavien-Dindo III or greater complication. In-hospital mortality was 3.1% (n=2). To date, there have been 27 recurrences and 22 patients have died equating to a median overall- and recurrence free survival of 47 and 29 months, respectively. The 5-year overall survival rate was 47.5% (95%CI 32.6–69.1). Of the 43 patients who are alive, 24 are disease-free.

Conclusion

We critically appraise our series of patients who underwent PE, as well as describing our early experience. Despite the early evolution phase of our unit, short- and long-term outcomes are good with acceptable perioperative mortality.

Risk Of Crc In Lynch Syndrome Carriers Undergoing Colonoscopic Surveillance – Results From New Zealand Familial Gastrointestinal Cancer Service

Authors List

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Abstract

Background

Lynch syndrome (LS) is the commonest cause of inherited colorectal cancer (CRC), defined by presence of a germline mutation in mismatch-repair gene. MSH6 and PMS2 mutation carriers have recently been reported to have lower risk of CRC and later age at presentation. We aimed to establish mutation-specific risk of CRC in patients with LS undergoing surveillance in New Zealand based.

Methods

The New Zealand Familial Gastrointestinal Cancer Service maintains prospectively collated database of all known LS families. LS mutation-carriers who underwent at least two screening colonoscopies up to 31st December 2017 were included. Patients with previous history of CRC or colonic resection were excluded. Age-specific cumulative incidence of CRC was ascertained for each mutation type.

Results

A total of 381 mutation carriers from 143 families underwent 2,061 colonoscopies (mean 5.4 per-patient). During a median observation-period of 4.4 years (range 1-28 years), 18 (4.7%) patients developed CRC (8, 8 and 2 in MLH1, MSH2 and MSH6 respectively). No cases of CRC were diagnosed in PMS2 mutation-carriers. Average interval between colonoscopies was 16.2 months (95%CI 15.6-16.9). The youngest MSH6 carrier with CRC was diagnosed at 44 years. Cumulative risk of CRC at 70 years in patients with MLH1, MSH2 & MSH6 were 17.7%, 17.8% and 8.5% respectively. The overall CRC risk in MSH 6 was significantly lower than MLH1 carriers (HR 0.2, 95%CI 0.04-0.94, $p = 0.02$). Majority (94.4%) of all CRC were stage 0-II. All patients underwent curative resection and no CRC-related mortality was observed.

Conclusion

In this prospective registry-based study of LS carriers undergoing surveillance, we demonstrate lower risk of CRC in MSH6 and PMS2, compared to MLH1 carriers. Most of the CRC were diagnosed at an early stage. Our findings support initiating surveillance at a later age in MSH6 & PMS2 carriers.

Surveillance Detected Colorectal Cancer In Lynch Syndrome: Great Result Or Missed Opportunity?

Authors List

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Abstract

Background

Patients with Lynch syndrome (LS) have rapid adenoma to carcinoma progression, resulting in the development of colorectal cancer (CRC) even in patients undergoing regular surveillance colonoscopy. We describe demographic and clinical characteristics of patients with surveillance-detected CRC in LS patients in New Zealand.

Method

The New Zealand Familial Gastrointestinal Cancer Service has a prospectively maintained database of all LS families. Patients who underwent at least one surveillance colonoscopy till 31st December 2017 were included. Demographic and clinical data were extracted on 14th May 2018.

Results

A total of 459 mutation carriers (110,188,131 and 30 from MLH1, MSH2, MSH6 and PMS2 respectively) underwent 2,139 colonoscopies (median interval 13.9 months). Thirty-six surveillance detected CRC were diagnosed in 33 patients, including 14 cases of metachronous CRC. The average age at diagnosis was 56 years (range 29-75), 63.7% of patients were male. Four patients were diagnosed with CRC at first surveillance colonoscopy. Majority of patients (84.3%) underwent surveillance colonoscopy in the preceding 24 months before CRC was diagnosed. Despite appropriate colonoscopy surveillance two patients presented with symptomatic CRC, both within 12 months of a normal screening colonoscopy. Seven patients (24%) underwent polyp resection at preceding colonoscopy from the same site where CRC was later diagnosed. Most of the CRC were right sided (75.4%). Majority of CRC (86%) were stage 0-II and no CRC related mortality was observed. Total colectomy with ileorectal anastomosis was performed in 36% patients.

Conclusion

Despite appropriate surveillance interval, 27 patients developed CRC. Incomplete polyp resection may be responsible for 24% of CRC, underscoring the need for endoscopists to be vigilant when performing polypectomies in high risk patients. Most CRC diagnosed at surveillance colonoscopy were early stage and no CRC-related mortality was observed.

Analysis Of Online Laparoscopic Appendectomy Videos Utilising The LAP-Vegas Guidelines

Authors List

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Abstract

Aims

To analyse the most commonly viewed laparoscopic appendectomy (LA) videos. To qualitatively assess these LA videos utilising the 2018 LAP- VEGaS criteria.[1] Laparoscopic surgery began as an uncontrolled, apprentice-driven phenomenon. Consumers, medical students, trainee doctors and specialists now have access to millions of online educational videos. Until recently, there have been no guidelines for surgical educational videos. In 2018, the LAP-VEGaS international consensus guidelines were produced.

Methods

A YouTube® search was performed for the terms “Laparoscopic OR Lap Appendectomy OR Appendectomy.” Videos with over 1000 viewer hits were selected for detailed analysis. These were reviewed against a checklist of 19 baseline LAP-VEGaS criteria.

Results

Of the 302 LA videos identified, 161 had over 1000 hits and these were analysed. The total views for these 161 exceeded 2.4 million. Advanced pathology was displayed viewed in 86 (53.4%). Expensive energy sources were used in 91 (56.5%) The retrograde approach was used in only 4 (2.5%) The average checklist score was 4/19 and only 5 videos met over 50% of the criteria (3.1%). The lowest score was 1/19 and highest was 11/19. No videos included either a disclosure statement or a functional outcome. Commentary was present in 61 (37.9%) and 53 had a step-by-step approach (32.9%). No credentials or authors' information were present in 30 videos (18.6%).

Conclusions

Online videos are highly accessible and have the potential to be a beneficial tool for surgical education. The quality of online material falls significantly short of international guidelines.

Reference

[1] Celentano, V. et al. LAP-VEGaS Practice Guidelines for Reporting of Educational Videos in Laparoscopic Surgery. *Annals of Surgery*, 268(6), pp.920-926.

Use Of Ketamine In A Small Endoscopy Unit Reduces Anaesthetist Call Rate And Opioid Administration

Authors List

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Abstract

Introduction

Moderate sedation during colonoscopy allows for a comfortable procedure, with enhanced patient satisfaction. Midazolam plus Fentanyl is widely used for colonoscopy sedation in New Zealand and has a favourable safety profile. Ketamine has been safely used to complement sedation for colonoscopy with useful effects on sedation, pain reduction and amnesia.

Methods

This retrospective, observational study examined the impact of the introduction of Ketamine sedation on colonoscopy quality indicators. The study utilised data from Whanganui endoscopy unit with four regular endoscopists. Group A included patients who underwent colonoscopy prior to the introduction of Ketamine (December 2016 - April 2017). Group B included patients who had colonoscopy performed after the introduction of Ketamine (May 2017 to January 2018). Proportions were compared using Chi2 analysis. Where variables included a range, they were grouped to allow comparison of proportions. Outcome measures included caecal intubation rate (CIR), adenoma detection rate (ADR), Fentanyl (over 75mcg) and Midazolam use (over 4mg) and Anaesthetist call rate. Information on adverse events related to Ketamine was sought through hospital reporting systems.

Results

Group A included 286 colonoscopies, with 688 colonoscopies in Group B. In Group B, Ketamine was used in 240 cases (35%). With the introduction of Ketamine there was a significant reduction in Anaesthetist call rate (9.1% vs 3.6%, $p = 0.0007$) and Fentanyl over 75mcg (48.6% vs 39.9%, $p = 0.01$). There was no significant difference identified for CIR, ADR or Midazolam over 4mg. There were no adverse events noted.

Discussion

The introduction of Ketamine to complement colonoscopy sedation significantly reduced anaesthetist call rate and reduced the proportion of patients who received over 75mcg of Fentanyl. The use of Ketamine in a small integrated unit appears safe. Measures of patient and staff satisfaction should be undertaken to confirm acceptability.

Experiences With The Abdominal Re-Approximation (ABRA) Device In Management Of The Open Abdomen

Authors List

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Abstract

Aim

Management of the open abdomen patient is complex and demanding. A subsequent major ventral hernia, planned or unplanned, causes further chronic morbidity for these patients. The ABRA device aims to prevent fascial retraction and thus facilitates primary fascial closure of the open abdomen. This case series reviews the outcomes of the ABRA device in five patients.

Method

Between 2014 and 2017 the ABRA device was used in the treatment of five patients at the Princess Alexandra Hospital, Brisbane. One surgeon applied the ABRA device in all patients. The outcomes were reviewed and analysed retrospectively, with a minimum of 18 months follow-up. Demographics, BMI, indication for ABRA, number of laparotomies pre and post ABRA, time to primary fascial closure, incisional hernia rates, and enteroatmospheric fistula rates were studied. Photographs were taken during and post ABRA device use.

Results

All five patients in this series survived their open abdomen. The mean age was 54 years (range 36 – 69). Four patients required an open abdomen to manage intra-abdominal sepsis, and one patient had a planned open abdomen as part of a staged surgery to correct a chronic enterocutaneous fistula in the setting of Ehlers Danlos Syndrome. The average length of hospital stay was 72 days (range 20 – 144), with an average ICU admission of 35 days (range 8 – 77). Patients had the ABRA device in place for between 6 and 15 days, and primary fascial closure was achieved on removal of the ABRA device in all five patients. While two patients had low volume enteroatmospheric fistula on discharge, they both resolved without surgical intervention. No incisional hernias have been recorded in follow-up to date.

Conclusion

The ABRA device was observed to be successful in preventing fascial wall retraction and allowing primary fascial closure in patients with an open abdomen.

Preoperative Imaging Avoids Unnecessary Surgery For Suspected Acute Appendicitis

Authors List

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Abstract

Background

The decision to perform an appendicectomy is often based on clinical findings. This approach, however, results in high rates of negative (non-inflamed) appendicectomies and morbidity associated with the procedure. Therefore, some consider a negative appendicectomy to be a complication since surgery could have been avoided. The aim of this study was to evaluate the effect of preoperative imaging on the negative appendicectomy rate in case of suspected appendicitis.

Methods

We analyzed our prospectively collected database for patients who had undergone surgery for a suspected appendicitis in our hospital over a 5-year period (2013-2017). Patient and treatment characteristics, histopathology diagnosis and postoperative outcomes were analyzed. Outcomes of those who had preoperative imaging were compared to those who did not.

Results

A total of 2070 patients were included, 848(41%) with preoperative imaging (CT, ultrasound or MRI) and 1222 (59%) without. Imaged patients were older and suffered from more comorbidities. The negative appendicectomy rate was 19.2% (n=235) for the non-imaged patients, compared with 12.4% (n=105) in the imaged group ($p<0.0001$). CT was the most accurate imaging modality to diagnose appendicitis correctly in 94% of the patients. Median hospital stay was 3.2 days in the imaged group compared to 2.1 days in the non-imaged group ($p=0.171$). Negative appendicectomy rates were related to a rate of morbidity of 10.6% (n=25) and 7% of patients could have avoided surgery.

Conclusion

Preoperative imaging significantly reduced the negative appendectomy rate. In the current study, at least 86 of the non-imaged patients (7%) did not require surgery and 25 postoperative complications could have been avoided. In this time of modern imaging modalities readily available, it is recommended to perform preoperative imaging in case of suspected acute appendicitis and avoid unnecessary surgery.

Innate Lymphoid Cells In Inflammatory Bowel Disease - Are They The Answer?

Authors List

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Abstract

Aims

Inflammatory bowel disease (IBD), including Crohn's disease (CD) and Ulcerative colitis (UC), is thought to arise from aberrant adaptive and innate immune responses to environmental triggers. Innate lymphoid cells (ILCs) are a novel family of immune cells that mirror the phenotypes and functions of T cells. Positioned strategically at barrier mucosal sites, ILCs regulate tissue homeostasis and response to pathogens through effector cytokine secretion. ILCs have recently been implicated in the pathogenesis of IBD and along with their cytokine pathways, represent potential therapeutic targets. This systematic review aims to evaluate the evidence linking ILCs to the pathogenesis of IBD.

Methods

A search of MEDLINE and PubMed with MeSH terms 'innate lymphoid cell' and 'inflammatory bowel disease' yielded 79 titles including 29 original research articles.

Results

ILCs are categorized into three subsets (ILC1 – 3), based on their phenotype and cytokine profile with the majority of research centred on ILC1 and ILC3. In human (IBD patients) and murine (colitis models) studies, intestinal ILC1 levels were increased in sites of intestinal inflammation compared to controls. There is increasing evidence for plasticity of ILC subsets, with transdifferentiation of certain ILC3 populations into IFN γ -producing ILC1 in inflamed tissue. Although less consistent than evidence for ILC1, ILC3 and ILC3-produced cytokines (IL-22 and IL-17) also appear to have a pro-inflammatory role in IBD patients and murine colitis models. ILC dysregulation has also been implicated in the pathogenesis of colitis secondary to commensal bacteria and colitis-associated cancer. Although the evidence is developing with several trends apparent, the heterogeneity of available data is a limitation.

Conclusions

There is growing evidence from both human and murine studies demonstrating a role for ILCs in the pathogenesis of IBD. Further research is required to determine means of targeting these complex regulatory pathways in disease therapy.

Laparoscopic Inguinal Hernia Surgery Using Progrid™ Mesh In 553 Patients – A Two Surgeon Experience

Demi Poynter, Jade Lau Young, David Moss, Abi Weaver, Ella Moss, Garth Poole

Aims

1. Assess outcomes from composite, self-adhesive mesh in laparoscopic inguinal hernia surgery.
2. Provide context regarding the negative publicity surrounding surgical mesh in the media.
3. Suggest a framework for a future clinician-led mesh registry.

Methods

This study is a retrospective analysis of the use of Progrid™ mesh for laparoscopic inguinal hernia repairs by two experienced surgeons in the public (CMDHB) and private sectors. Data were collected by screening clinical notes in Concerto, Clinical Portal, Éclair and private surgeon records. A sample of patients were contacted directly for quality of life assessment using the Carolinas Comfort Scale (CCS) (Yeo & Berney, 2012). Statistical analysis was performed in Microsoft Excel.

Results

553 patients had a total of 650 hernia repairs using Progrid™ mesh in the audit period.

The rate of hernia recurrence was 0.2% (n=1). The rate of reoperation was 0.4% (n=2). There were no adhesion-related admissions and no mesh explant procedures.

The essential CCS criteria showed the following:

- No “sensation of mesh presence” (94%),
- No pain (94%)
- No movement limitation (99%).
- No patients reported severe or disabling symptoms.

Conclusion

- In this cohort, laparoscopic inguinal hernia repair with Progrid™ has shown a low recurrence rate and high patient satisfaction scores.
- The public perception of mesh based on media reports of complications may not be relevant for this operation.
- This data collection utilized in this study could serve as a platform for the development of a national mesh registry.

References

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Management Of Acute Calculous Cholecystitis: How Do We Shape Up?

Authors List

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Abstract

Aims

Updated evidence-based guidelines (Okamoto 2018) were recently published recommending early cholecystectomy in acute cholecystitis for all patients capable of withstanding surgery, regardless of the duration of symptoms. The aim of this study was to determine the management of acute calculous cholecystitis (ACC) patients receive in our department and benchmark our performance against these guidelines.

Methods

A retrospective audit was performed using data collected from Wellington Regional Hospital electronic record system. Included in the study was any patient over 18 that had an index admission for ACC during the 12-month study period ending in July 2018. Data was collected on patient demographics, co-morbidities, management and operative details. Data analysis was performed using Microsoft Excel. Approval for the study was granted by the local DHB Clinical Audit Committee.

Results

The study included 118 patients: 61 (51%) were male; 25 (21%) were of Maori or Pacific Island ethnicity and the median age was 58 years (range 21-99). The management for patients presenting for the first time with ACC was acute cholecystectomy in 58 (49%) patients; acute gallbladder drainage in 12 (10%) and non-operative in 48 (41%). Of the latter two groups: six (50%) and 21 (44%) patients respectively went on to have a cholecystectomy. Overall, 81 (69%) patients received management in accordance with the guidelines. Clinical rationale for non-concordant management was documented for 16 (14%) patients, in six cases delaying cholecystectomy because of obesity.

Conclusions

This study demonstrates that, in our department, patients with ACC are managed in accordance to the recent guidelines 69% of the time. Some non-evidence-based management decisions are being made. In order to improve our performance we intend to implement an evidence-based departmental guideline for the management of ACC. Okamoto et al. 2018. Toyko Guidelines 2018: flowchart for the management of acute cholecystitis. J Hepatobiliary Pancreat Sci, 25:55-72.

There Will Be Blood. Which Group Of People Are Best At Estimating Gastrointestinal Blood Loss?

Authors List

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Abstract

Aims

Estimating blood loss volumes (BLV) accurately by visual means alone is a difficult task. There are a multitude of methods available to help clinicians perform this task. However, as General Surgeons we routinely ask members of the public to estimate BLV. Our aim was to establish the abilities of different groups of people to estimate gastrointestinal BLV.

Methods

A double blinded observational study was performed. The study was open to anyone and participants were recruited using advertising flyers and word of mouth. Participation in the study was incentivised by the chance to win a bottle of wine. Participants were shown three 'stations' including a vomit bowl, bed and toilet bowl. Differing volumes of simulated blood had been placed in all three stations. Participants were asked to estimate the blood volume and their answers were recorded by a blinded study facilitator. Data analysis was performed using Microsoft Excel.

Results

Sixty-three people participated in the study. The median number of millilitres of inaccuracy across all participants and all stations was 288mls (range 91-1292). House surgeons (n=16) and nurses (n=17) performed the best at the vomit bowl station (median 13mls inaccuracy). Midwives (n=2) were the most accurate at estimating BLV at the bed station (median 85mls inaccuracy) whereas lay people (n=6) were the worst (median 335mls inaccuracy). However, lay people performed the best at the toilet station (median 15mls inaccuracy), whereas midwives were the least accurate (median 70mls inaccuracy).

Conclusions

Our study demonstrates that no group of people is consistently accurate when estimating gastrointestinal BLV by visual means alone. Caution is therefore advised when interpreting BLV estimates made using this method. Different groups of people were superior across different stations. Our study was somewhat limited by low number of participants in each group. Further research is required.

Thyroid Nodule US-FNAC Is Cheaper And Faster If Performed By Surgeons

Authors List

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Abstract

Aims

Ultrasound guided fine needle aspiration cytology (US-FNAC) is a key part of assessment of thyroid nodules. Traditionally this test has been performed by radiologists, however recently endocrine surgeons have begun performing US-FNAC in surgical clinics. Surgeon performed US-FNAC has been shown to have equivalent rates of non-diagnostic results, and to significantly decrease the time from referral to definitive management plan. We compared the cost of surgeon performed US-FNAC to radiologist performed US-FNAC in our center.

Methods

We performed a retrospective review over 2 years in a provincial New Zealand center comparing radiologist performed thyroid US-FNAC to surgeon performed US-FNAC. All patients who had thyroid US-FNACs performed between Jan 1 2016 and Dec 31 2017 were included and their records were interrogated. Patient level costing was performed from referral to diagnosis. The primary outcome of interest was the cost and resource comparison between surgeon and radiologist performed FNAC.

Results

92 consecutive patients were included. 42 underwent surgeon performed US-FNAC and 50 underwent radiologist performed US-FNAC. Mean cost to diagnosis was \$1017 in radiologist performed US-FNAC and \$653 in surgeon performed US-FNAC. Mean number of hospital appointments needed was 2.8 in patients undergoing radiologist performed US-FNAC and 2 in those undergoing surgeon performed US-FNAC. There was no significant difference in the rate of non-diagnostic results.

Conclusions

This study demonstrates that in patients referred for assessment of thyroid nodules, cost and resource use to diagnosis is lower if a pathway utilizing surgeon performed US-FNAC is followed. Diagnostic outcomes were comparable.

Differences In Patient Characteristics And Long Term Outcomes For Laparoscopic Sleeve Gastrectomies Performed At A Private And Public Institution

Authors List

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Abstract

Aims

Publicly funded bariatric surgery represents a significant policy challenge to governments worldwide. In New Zealand, bariatric surgery is essentially self funded (limited insurance coverage) in the private system or through the public system. In recent years, laparoscopic sleeve gastrectomy (LSG) has emerged as the most common primary bariatric procedure in Australasia. We describe the differences in patient characteristics and their long term outcomes for LSG performed in a public and private hospital within the same region in New Zealand.

Methods

Retrospective review of patients undergoing LSG performed between 2010 to 2014 by single bariatric surgeon (MB) in a private and public hospital. Data collected from a combination of existing information in bariatric database, follow-up questionnaires and electronic clinical records.

Results

There were 230 patients in the private hospital with 45.2% follow up at five years. (versus 130 patients in public with 58.5% follow up). There were more males and non-NZ Europeans in the public group. Majority of patients undergoing LSG in private had pre-op BMI of 35-39 (versus BMI 40-44 public). Mean total weight loss at five years in private was 23.8kg (versus public 16.8kg). Mean percent excess weight loss (%EWL) in private was 61.8% (versus public 35.0%). Correspondingly private patients were more likely to meet Reinhold's criteria even when stratified by BMI. Private patients had lower obesity related co-morbidities pre-operatively with comparable rates of post-operative disease resolution or improvement in both groups.

Conclusions

Public patients tend to have higher BMIs and higher rate of obesity related co-morbidities at presentation for LSG. Private patients had better weight loss at five year follow up even when controlled for pre-op BMI. There may be a number of factors that explain this observation which we are currently investigating.

References

1. Bariatric Surgery Registry. (2018). Bariatric surgery sixth annual report 2017/18. Accessed on 15/01/2019 at https://www.monash.edu/__data/assets/pdf_file/0003/1481943/Bariatric-Surgery-Registry-2018_FINAL.pdf

Peri-Operative Blood Loss & Transfusion And Pelvic Exenteration Outcomes

Authors List

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Abstract

Aim

Peri-operative blood loss and packed red blood cell transfusion (PRBT) is common among patients undergoing radical surgical resection. Evidence suggests that peri-operative PRBTs have a detrimental effect on colorectal cancer recurrence.¹ Indicators of adverse outcomes after pelvic exenteration (PE) have previously been described however information regarding the impact of blood loss and PRBT is scarce.² We aim to determine this impact of peri-operative blood loss and PRBT on patient outcomes.

Methods

Retrospective review of prospectively maintained database of consecutive patients managed by PE from 2005 to 2018. Treatment cohort stratified into two groups: those experiencing ≥ 1500 mls intraoperative blood loss (equal to upper quartile of patients) and those requiring ≥ 2 PRBT. Outcomes examined include occurrence of high-grade complications (Clavien-Dindo grade \geq III), ICU/HDU and hospital length of stay, overall- and recurrence-free survival.

Results

Sixty-five patients were included. Median intraoperative blood loss was 1000mls (IQR 600–1500mls). Twenty-seven patients required ≥ 2 units PRBT. Patients in the top quartile of blood loss had significantly more high-grade complications (80% vs. 31%, $p=0.003$) and significantly longer hospital length of stay (27 vs. 14 days, $p=0.003$). Whilst recurrence free survival times were not statistically different between patients in the top quartile of intraoperative blood loss (21 vs. 33 months, $p=0.6$), overall survival was substantially shorter (36 vs. 92 months, $p=0.01$). However, when intraoperative transfusion requirements were examined, no significant short- or long-term differences could be found.

Conclusion

Intraoperative blood loss substantially impacts patients short- and long-term outcomes following PE. However, intraoperative PRBT does not seem to impact these outcomes.

References

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(2) Platt, E. et al (2018) Systematic review of outcomes following pelvic exenteration for treatment of primary and recurrent locally advanced rectal cancer. *Techniques in Coloproctology* (2018) 22:835–845

Perineal Reconstruction After Pelvic Exenteration: A Single Centre Experience.

Authors List

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Abstract

Aim

Closure of perineal defects after pelvic exenteration (PE) is challenging and often associated with significant morbidity and delays in adjuvant treatment. Different approaches have been described as alternatives to direct closure with no clear consensus.^{1,2} We describe our experience with various perineal reconstruction techniques after PE and associated outcomes.

Methods

Retrospective review of a prospectively maintained database containing consecutive patients managed by PE from 2005 to 2018. Patients had immediate perineal reconstruction performed by the operating surgeons upon completion of PE.

Results

Sixty-five patients were included. Twenty-five (38%) did not require any form of perineal reconstruction. 7 (11%) required only mesh reconstruction. All other patients required combined flap and mesh reconstructions, using either the transverse rectus abdominis myocutaneous (TRAM) flap (n=20), inferior gluteal artery myocutaneous flap (IGAM) flap (n=8) or VY advancement flap (n=3). Patients who underwent flap reconstructions had significantly more compartmental resections (median 3 vs. 2 compartments, p=0.009) and longer length of hospital stay (median 20 vs. 13 days, p=0.04). Although not statistically significant, this group had higher intraoperative blood loss (mean 1638 vs. 1198mls, p=0.99) and longer operative duration (570 vs. 508 mins, p=0.09). There was no difference in the occurrence of high-grade complications (\geq Clavien-Dindo Grade III) in both groups.

Conclusions

Flap reconstruction is frequently required following PE. Those requiring flap reconstruction undergo more extensive exenterative resections and require longer length of hospital stay. Furthermore, operative duration and intraoperative blood loss tend to be higher in these patients. Nonetheless, postoperative morbidity are similar to patients not requiring perineal flaps.

References

- (1) Devulapalli, C. et al (2015) Primary versus flap closure of perineal defects following oncologic resection: a systematic review and meta-analysis. *Plastic Reconstruction Surgery*. 137 : 1602.
- (2) Schiltz, B. et al (2017) Biological mesh reconstruction of the pelvic floor following abdominalperineal excision for cancer: a review. *World Oncology* 8(3): 249-254.

Treatment Patterns Of Primary Breast Cancer Among The Oldest Of Old

Authors List

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Abstract

Treatment patterns of primary breast cancer among the oldest of old New Zealand has an ageing population with competing causes of mortality. While there is emerging evidence that under-treatment of very elderly patients result in excess preventable breast cancer (BC) mortality, there is no established standard of care for this group. (1,2)_

Aims

To describe current BC treatment patterns in patients over 80 years old at North Shore Hospital (NSH).

Methods

Data on patients aged 80 and above at time of diagnosis with primary BC from January 2010 to December 2016 was retrieved from a prospectively maintained database.

Results

207 patients were included in analysis. 82.6% of BC was oestrogen receptor positive. 62.9% underwent surgery with or without adjuvant treatment, with a clear trend of decreasing intervention with increasing age and this is independent of co-morbidities as measured by Charlson Comorbidity Index and Frailty scale. 30-day post-operative mortality was zero . 37.7% underwent non-surgical treatment, predominantly primary endocrine therapy. 5.8% received no treatment. At five years, overall survival was 63.6% for surgical group versus 45.4% for non surgical group. *BC specific survival was 82.4% for surgical group versus 57.1% for non-surgical group._

Conclusion

NSH has comparable treatment patterns to published international data. Further research may inform treatment guidelines based on tumour characteristics and objective, structured assessment of co-morbidities rather than age alone.

References

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Biofeedback Based Anal Strengthening Exercises As A Treatment For Radiotherapy Related Faecal Incontinence

Authors List

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Abstract

Aims

To assess the effectiveness of biofeedback based anal strengthening exercises in radiotherapy related faecal incontinence.

Methods

A retrospective cohort study was performed on 7 patients with radiotherapy related faecal incontinence seen at the biofeedback and continence center at Royal Prince Alfred Hospital in Sydney. Face to face education and biofeedback based anal strengthening exercises were provided. Baseline and follow up anal pressure measurements were performed assessing anal sphincter fatigue time, resting, squeeze and cough pressure. Continence scores (Pescatori and St Mark's) and patient defined quality of life measures were also assessed. Patients were followed up at 5 months.

Results

The radiotherapy target varied from prostate (4/7), uterus (2/7) and rectum (1/7). Two patients underwent a hysterectomy and one had an ultralow anterior resection. 3 (43%) patients were male and 4 (57%) were female. Pescatori (0-10) and St Mark's (0-10) continence scores had a median improvement of 2 (range 0-5) and 1 (range 0-8) respectively. Self scored patient continence scores (0-10mm) had a median improvement of 2mm (1-6mm). Anal fatigue time measurements ((Isotonic Fatigue Time (seconds) and Isometric Fatigue Time (Cycles)) showed a median improvement of 3 seconds (-4 - 36 seconds) and 3 seconds (-1 - 6 seconds) respectively. Resting Pressure (mmHg), Squeeze Pressure (mmHg) and Cough Pressure (mmHg) showed median improvement of 10mmHg (-10-21mmHg), 15mmHg (-16 - 100mmHg) and 21mmHg (-3 - 53mmHg) respectively. Patient defined quality of life (QOL) measures showed a median change of 0.2 (range 0-0.5).

Conclusions

This study shows improvement in anal pressure metrics, continence and QOL in patients who performed biofeedback based anal strengthening exercises for radiotherapy related faecal incontinence. These results suggest a benefit for anal strengthening in patients undergoing pelvic radiotherapy and will direct further prospective studies.

Efficacy Of Frozen Section Intra-Op Assessment Of Sentinel Nodes In Breast Cancer

Authors List

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Abstract

Introduction

Frozen section (FS) intra-operative assessment was considered an efficient way to determine the need for axillary clearance intra-operatively (Gipponi, et al., 2004; Wada, et al., 2004). In New Zealand, until recently, surgeons were performing intra-op sentinel node assessments for treatment of early breast cancer patients. Aim of the study was to determine whether frozen sections of sentinel lymph nodes (SLN) in breast cancer were able to achieve reduction in number of operations. FS accuracy and length of stay were secondary outcomes.

Method

Retrospective data of all patients who underwent sentinel node biopsies for breast cancer between January 2014 and December 2016 at Midcentral DHB. Theatre electronic database as well as the breast CNS database was used. There were three consultants who routinely performed SLN biopsy with FS assessment, and two consultants did not as a routine.

Results

There were 236 patients. 99 patients (41.9%) had FS and 27 were positive on FS. 35 patients had positive sentinel nodes on histology. 24/27 positive FS patients had further clearance during the index operation, 8 patients whose FS results were falsely negative ended up with a delayed axillary clearance. The FS group had an average of 0.24 further surgery compared with the non FS group, who had 0.33 further procedures. Length of stay did not appear to be reduced by FS (2.21 days FS vs 2.02 days non FS).

Conclusion

FS overall did not reduce number of procedures/admissions or length of stay across the three year period at Midcentral DHB. FS may have a continuing role in minority of patients, however, the efficacy and error rate of FS assessment should be informed to the patients as it may not provide a significantly reduced days in hospital or number of interventions overall. Further in depth data analysis will be presented at the conference.

Barriers To Access To Delayed Breast Reconstruction Affecting Urban And Rural Patients In New Zealand

Authors List

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Abstract

Background

There are many benefits of reconstruction after mastectomy. National guidelines recommend that reconstruction should be offered. Reconstruction rates tend to be lower in rural than in urban centres. It is unknown whether women's expectations differ between rural and urban populations within New Zealand.

Methods

Women from a rural (Whanganui) and urban (Wellington) centre who underwent mastectomy over a 5-year period (January-2010 to December-2015) and who were under 65 years of age were mailed an invitation to complete an online questionnaire. The survey was designed to assess whether reconstruction had been discussed, whether a referral was offered and sought attitudinal and pragmatic reasons for differences in referral rates.

Results

Over the five years, 186 women had a mastectomy in Whanganui and 377 in Wellington. Of these 68 in Whanganui and 132 in Wellington were invited, and responses received from 29 (42.65%) and 30 (22.72%) respectively. Of respondents 75% in Whanganui and 56% in Wellington did not undergo reconstruction. In both places more than 80% discussed reconstruction. Discussion occurred at diagnosis 43% of times in Whanganui and 60% in Wellington. For both centres the first-ranked reason for not having reconstruction was reluctance to undergo further surgery. In Whanganui, taking time off work and the distance to travel for surgery (to Hutt Valley) were ranked second and third respectively. In Wellington not being sure about wanting the surgery and fear of having further anaesthetic were ranked second and third. More than 30% of women on both centres were dissatisfied with access to reconstruction. The process of getting an appointment for reconstruction was difficult for 67% of women in Whanganui and 54% in Wellington.

Conclusion

The majority of women find it difficult to access reconstructive surgery post-mastectomy. For rural women; taking time off work and distance to travel added additional difficulties.

Does Previous Colonic Resection Influence Endoscopist Key Performance Indicators For Colonoscopies?

Authors List

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Abstract

Background

Caecal intubation rate (CIR) and Adenoma Detection Rate (ADR) are important Key Performance Indicators (KPIs) for colonoscopy. Patients with non-intact colons (NIC) have traditionally been excluded from measured KPIs and often not audited specifically. However ADR between NIC and intact colons (IC) may be similar due to a higher risk of metachronous adenomas despite a shorter colon. It has been assumed that colonoscopy is easier in NIC due to a shorter colon, which may inflate an endoscopist's CIR performance data if they have a high proportion of patients with NIC. There is little empiric evidence to support this assertion. Patients with previous bowel resection deserve high quality colonoscopy as much as patients with intact colons. Quality indicators for this group should be defined and measured.

Aim

To demonstrate whether key colonoscopy KPIs are different for NIC compared to IC, to guide whether NIC can reasonably be included in endoscopist performance data.

Methods

Prospective collection of colonoscopy KPIs and IC/NIC status in a single endoscopy department between September 2016 and August 2018. Primary outcomes were colonoscopy completion rate and ADR. Secondary outcomes were polyp detection rate (PDR), time to extent reached and average analgesia required.

Results

1986 colonoscopies were included. Mean ages for IC were 60.3 and 66.4 for NIC. The completion rate for IC was 94.9% (1680/1770) compared to 96.8% for NIC (209/216). ADR for both cohorts were comparable (IC = 32%, NIC = 34%). PDR was also similar (IC = 51%, NIC = 54%).

Conclusions

The observed outcomes between key KPIs for NIC and IC over two years were similar. Endoscopy units should therefore consider including NIC in their measured KPIs. This is not likely to skew performance data substantially and would help ensure equity and outcome quality for all patients.

Outcomes Of Acute Abdominal Presentations In Renal Transplant Recipients: A Multi-Centre Retrospective Audit

Authors List

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Abstract

Aims

The rising annual frequency of renal transplants in New Zealand, from 38 in 1996 to 126 in 2017, highlights an increasing likelihood over time that immunocompromised recipients will present to a General Surgical service with an acute abdominal presentation (AAP). The aim of this audit is to review the outcomes of subsequent AAPs in recipients who underwent renal transplantation at Auckland City Hospital (ACH) within the past decade.

Methods

Patient identifiers for recipients who received a renal transplant within the ten years between 01/01/08 – 31/12/17 were obtained from the ACH transplant database. A multi-center review of patient records was undertaken, with data pertaining to AAPs collected. Acute presentations directly relating to the transplant surgery were excluded.

Results

793 renal transplants occurred within the time period, of which data was collected on 763 (96.2%) with a mean follow-up of 4.3 +/- 2.8 years. There were 77 (10.1%) subsequent AAPs in 76 patients. Biliary pathology (20.8%) was more common, followed by small bowel obstruction/strangulation/perforation (16.9%) and transplant or native pancreatitis (11.7%). The AAP group had a significantly higher mortality rate (16.4% vs 7.8%, $p=0.0252$), and were more likely to have a decline in mean deltaGFR/year although this was not significant (-0.52 vs 1.20, $p=0.172$). AAPs were initially managed in non-transplant NZ centres in 45/77 (58.4%) of cases, of which 16/45 (35.6%) were either discussed with or transferred to ACH. There was no significant difference in mortality rate, renal function outcome or length of hospital stay (LOS) between those managed at ACH or in other centres (mortality rate 10.9% vs 3.2%, $p=0.3922$), (mean deltaGFR/year -1.5852 vs 0.814, $p=0.4661$), (mean LOS days 13.9 vs 9.9, $p=0.3194$).

Conclusions

The current management of subsequent AAPs in NZ renal transplant recipients does not significantly impact on patient survival or kidney function in the short-medium term.

Neoadjuvant Therapy In Rectal Cancer: How Are We Choosing?

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Abstract

Background

Neoadjuvant therapy has revolutionised the management of rectal cancer however there is a need to examine the factors driving neoadjuvant treatment allocation. The clinical and radiological factors that warrant long-course-chemoradiotherapy (LCR) vs. short-course-radiotherapy (SCR) remain controversial and, in New Zealand, there is a recognised lack of consensus regarding selection of patients for neoadjuvant therapy.¹ This study aimed to describe patterns of treatment allocation and identify independent predictors for neoadjuvant therapy regimes for rectal cancer patients at our institution.

Methods

A retrospective review of 122 patients undergoing surgical resection for rectal cancer with curative intent, between November 2012 and October 2017. Univariate and multivariate analysis was performed to identify factors that determined which patients received neoadjuvant therapy, and whether it was short-course (SCR) or long-course (LCR).

Results

Eighty-six patients (70%) received neoadjuvant therapy. Independent predictors for receiving neoadjuvant therapy were T3-4 tumours ($p < 0.001$), node-positive disease ($p=0.005$), and mid ($p=0.045$) or low rectal cancers ($p < 0.001$). Of those receiving neoadjuvant therapy, 38 (44%) received SCR and 48 (56%) received LCR. Node-positive disease was the only predictor for receiving LCR rather than SCR ($p=0.002$). Assessing our cohort against these predictors allowed us to identify important areas of variance in our decision-making, with these factors predicting 76% of neoadjuvant treatment allocation.

Conclusions

Utilising the identified factors, it appears that consistent decisions regarding neoadjuvant therapy are being made the majority of the time. These decisions are largely driven by T and N stage as well as tumour height. Mesorectal fascia involvement, pre-treatment CEA, age and comorbidity also influenced decision-making to a lesser and more variable extent.

References

1. Jackson C, Ehrenberg N, Frizelle F, Sarfati D, Balasingam A, Pearse M, et al. Rectal cancer: future directions and priorities for treatment, research and policy in New Zealand. *The New Zealand Medical Journal*. 2014;127(1395):63-72.

Helicobacter Pylori In Patients Undergoing Laparoscopic Sleeve Gastrectomy. Should We Really Care?

Authors List

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Abstract

Background

Obesity is a significant public health priority of the 21st century. Laparoscopic sleeve gastrectomy (LSG) is an effective weight loss strategy for obese patients and is currently the most common type of weight loss procedure in Australia.¹ However, the impact of Helicobacter Pylori (*H. pylori*) infection on post-operative surgical complications is relatively unknown.

Aims

The aim of this systematic review is to determine whether histological diagnosis of *H. pylori* during examination of excised gastric specimens is associated with post-operative complications including leakage and bleeding in patients undergoing LSG.

Methodology

A search was conducted from inception to mid-January 2019 using electronic databases; PubMed, Medline, Embase and Cochrane library, to identify all studies evaluating the association between *H. pylori* confirmed on histological examination of excised gastric specimens following LSG and post-operative complications including leakage and bleeding. A systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines.

Results

A total of 73 articles were identified through a database search. These articles were screened by title and abstract followed by appraising selected full texted articles for eligibility, which identified the studies for inclusion in the systematic review.

Conclusion

The findings of this systematic review indicate that the presence of *H. pylori* is not associated with post-operative leakage or bleeding following LSG for the management of obesity. Further research, ideally involving studies with a larger sample size is required to support these findings.

References

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Intraperitoneal Local Anaesthetic In Bariatric Surgery- A Systematic Review

Authors List

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Abstract

Background

Obesity is a significant public health priority of the 21st century. Three common types of bariatric procedures include sleeve gastrectomy, adjustable gastric band and Roux-en-Y gastric bypass. Despite a laparoscopic approach, post-operative pain remains a major challenge. Administration of local anaesthetic into the intraperitoneal cavity is a novel technique in managing post-operative pain.

Aims

The aim of this systematic review is to appraise the analgesic effects of intraperitoneal local anaesthetic in patients undergoing laparoscopic bariatric surgery. Methodology A comprehensive search was conducted from inception to December 2018 using electronic databases; PubMed, Medline, Embase and Cochrane library, to identify all randomised controlled trials comparing intraperitoneal local anaesthetic versus placebo in laparoscopic bariatric surgery. The outcomes were post-operative pain assessed by a visual analogue scale or numerical rating score and use of rescue opioid analgesia. A systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines.

Results

A total of 177 articles were identified through a database search. These articles were screened by title and abstract followed by appraising selected full texted articles for eligibility, which identified 5 studies for inclusion in the systematic review. With regards to post-operative pain scores, four studies demonstrated an analgesic benefit of intraperitoneal local anaesthetic, with the remaining studying illustrating no difference. Four of the five studies assessed post-operative opioid analgesia use, with 1 study identifying reduced analgesic requirement with intraperitoneal local anaesthetic and 3 studies illustrating no difference in analgesic requirement.

Conclusion

Intraperitoneal local anaesthetic is a feasible option in the management of pain following laparoscopic bariatric surgery. Further studies are required to comprehensively evaluate its efficacy and safety. In addition, more research is needed to optimise the analgesic benefit by investigating procedural related factors including type, dosage, timing and administration site of local anaesthetic.

Molecular Testing Of Colorectal Cancers At Wellington Hospital

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Abstract

Aims

Molecular tumour markers are increasingly utilised to aid in prognosis and treatment decision making for colorectal cancer (CRC), including DNA mis-match repair protein deficiency (dMMR) and BRAF mutation analysis. In 2018 the Ministry of Health New Zealand (MOH NZ) published new recommendations for molecular testing of CRC that included: 1) routine testing for dMMR in all newly diagnosed CRCs; 2) BRAF V600E mutation testing in CRCs with loss of MLH1 protein; and 3) BRAF V600E mutation analysis in all newly diagnosed stage IV CRCs. This study assessed the rate of MSI and BRAF testing at Wellington Public Hospital (WPH) against these current guidelines.

Method

Data was obtained for newly diagnosed CRC in WPH between Jan 2016 - Dec 2018. Information regarding demographics, diagnosed cancer, surgical treatment, testing for MMR, detection of genetic cancer syndromes, and referral to genetic services were collected and compared.

Results

A total of 78 (2016), 101 (2017), and 89 (2018) patients with dMMR data available to assess the rate of testing were analysed. Increasing rates of dMMR testing in new CRC diagnoses were observed across 2016-2018 (2016, 35%; 2017, 66%; 2018, 98%). For patients with loss of MLH1 protein (n=26), subsequent BRAF V600E mutation testing was not significantly different over the 3 years, with an overall testing rate of 85%. Finally, BRAF V600E mutation testing was performed for only 10% of patients with newly diagnosed stage IV disease (n=62) in 2016-2018, with the highest rate of testing in 2018 (27%).

Conclusions

dMMR testing in CRC has increased over 2016-2018 to fit with current NZMOH guidelines and BRAF V600E mutation testing is being performed in majority of cases with loss of MLH1 protein. However, the rate BRAF V600E mutation testing in stage IV CRC patients is low and not currently in accordance with the 2018 guidelines.