
MILITARY MEDICAL MEETINGS

The Editor is delighted to publish the abstracts and/or case reports from military academic medical meetings in the Journal. The meeting organizers are asked to contact the Editor for guidance on requirements beforehand.

TRI-SERVICE SURGICAL MEETING

The Tri-Service Surgical Meeting took place at Keogh Barracks, Ash Vale, on the 18/19th March 2004.

Higher surgical trainees were asked to submit abstracts of formal research and basic surgical trainees (BST) to submit an interesting case report in its entirety. These were peer reviewed and the best six for each category presented in a Prize Session at the meeting. The abstracts of all six Higher Surgical Trainee (HST) abstracts and the prize winning case report are published below. Congratulations to Surg Lt Cdr Mercer (HST Prize winner) and Capt Newton Ede (BST Prize winner).

HST PRIZE SESSION

Implementation Of A Specialist-Led Service For The Management Of Acute Gallstone Disease

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Background

The gold standard treatment for acute cholecystitis (AC) and biliary colic (BC) requiring hospital admission is urgent laparoscopic cholecystectomy. However, this is routinely performed in only a few hospitals in the UK.

Methods

A retrospective audit of emergency admissions with AC or BC from January to December 2000 led to implementation of a specialist-led protocol for the urgent management of acute gallstone disease. A prospective audit was carried out for 6 months following its implementation.

Results

One hundred and fifty eight patients were admitted with AC or BC in the first audit period, and 110 in the second audit period. The rate of cholecystectomy at index admission increased from 37% to 67%, at a median of 3 days after admission, and the conversion rate fell from 32% to 12%. Median operation time was 75 minutes. Median hospital stay fell from 9 days to 5.5 days, and the unplanned readmission rate reduced from 19% to 4%.

Conclusion

Urgent cholecystectomy for the management of acute gallstone disease is feasible and achievable in a DGH with a specialist upper GI team. It can lead to a reduced conversion rate, shorter hospital stay, fewer unplanned readmissions, an acceptable operating time and a low complication rate. The protocol is

recommended for implementation in other hospitals.

Botox for Anal Fissures

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Aims

Botulinum toxin (Botox) injection heals most chronic anal fissures. We report our experience of Botox with regard to symptom relief in the short and medium term.

Methods

The study comprised 43 patients (22 male, mean 45 years) treated with Botox as a second line treatment for chronic anal fissure in a single colorectal unit from 2001-2003. Patients were followed up in clinic. Outcome in the medium term and acceptability of the treatment were determined by telephone.

Results

Before treatment patients had been treated with glyceryl trinitrate/diltiazem without success. After Botox treatment, pain relief was excellent in 17(40%), good in 17(40%), and poor in 9(20%) at a mean 11 weeks. There was objective evidence of partial/complete healing in 34(79%). 18(42%) patients required further treatment at this time. Telephone follow up was possible in 26 of the 34 patients with good/ excellent early pain relief. Of these, 3(12%) had received further treatment, 23(88%) had not, and 20(77%) had no current or ongoing need for further treatment. 22(85%) patients found the treatment acceptable as an outpatient procedure, 4(15%) found it excessively painful, 8(31%) patients reported transient faecal leakage after treatment.

Discussion

Injection with Botox appears to be a satisfactory treatment for 60% of patients with chronic anal fissures that have resisted other non-operative therapies. When Botox works its effect appears to be sustained. Administration of Botox is acceptable in an outpatient setting. Patients need to be

advised that faecal leakage is common but transient. Botox is a valuable treatment for chronic anal fissures.

Laparoscopic Inguinal Hernia Repair – Results of the Association of Endoscopic Surgeons of Great Britain and Ireland Audit.

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Aim

The Association of Endoscopic Surgeons of Great Britain & Ireland established a voluntary audit of its members who were performing laparoscopic inguinal hernia repairs. The aim of this study was to identify the techniques in use and their outcomes.

Method

Between October 1999 and July 2003, patients undergoing a laparoscopic hernia repair were studied using a standardised questionnaire completed prospectively by the surgeon. The main areas of interest were indications, operative technique, complications and outcome.

Result

One thousand seven hundred and ninety two patients (96% male, aged 54 ± 15 years) were studied. There were 1067 primary unilateral, 494 primary bilateral, 150 recurrent unilateral, 81 recurrent bilateral inguinal hernias, and 29 other hernias present in the patients. 82% of operations were performed by a transabdominal preperitoneal approach and 43% were carried out as a day case. Operative time was 38 ± 19 minutes (mean \pm standard deviation). Seventeen (0.9%) of the procedures were converted to an open repair. Intraoperative complications occurred in 27 (1.5%) patients - 23 surgical (abdominal injury) and 4 medical (cardiorespiratory). Postoperative complications were reported in 215 (12.0%) patients. Follow up at 4 ± 2 weeks was achieved in 1671 (93%) of patients. Outcome was rated as "excellent" or "good" in 94% of these. Wound neuralgia was reported by 31 (1.9%) patients.

Conclusion

Laparoscopic hernia repair is suitable for almost all patients, with the transabdominal preperitoneal approach being the most popular technique. The outcome is highly satisfactory to most but there is a small incidence of complications.

Presented, in part, at the Association of Surgeons of Great Britain and Ireland Annual Scientific Meeting, Manchester, May 2003.

Determining Amputation Rates in Casualties of War

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Background

The method of determining limb amputation rates in a conflict setting is varied. The lack of uniformity makes any meaningful comparisons difficult. The aim of this presentation is to propose a method of determining the rate of major limb amputation in a conflict setting.

Method

A retrospective review of battle casualties admitted to 34 Field hospital during the recent conflict in Iraq was carried out. Based on casualty records and operating theatre logbooks, data was collected for the period between the 26th March and the 8th May, focusing on casualties undergoing surgery for injuries sustained to extremities.

Result

Sixty eight (55%) casualties underwent surgery for battle injuries to extremities. Six upper and eight lower limb amputations (proximal to carpals and tarsals bones) were carried out from a total of 87 battle-injured limbs, giving an overall amputation rate of sixteen percent (14/87).

Conclusion

The rate of major limb amputation as determined by the number of amputations performed per number of limbs operated on, provides a simple, reliable and reproducible means of measuring this index, particularly in a conflict setting.

Increased Expression of Cox-2 and MDR1 Following Induction Chemotherapy in Oesophageal Cancer

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Introduction

Adenocarcinoma of the oesophago-gastric junction is increasing in incidence in developed countries, and has a mortality of over 90%. Chemotherapy for adenocarcinoma of the gastro-oesophageal junction is of limited benefit, due in part to the rapid development of chemoresistance. This may be caused by a combination of selection of resistant tumour cells and up-regulation of specific genes conferring chemoresistance. MDR1 encodes for the multi-drug resistance protein, while COX-2 is implicated in tumour angiogenesis, invasion and progression.

Methods

An experimental method using quantitative reverse-transcriptase PCR (qRT-PCR) was designed to detect the expression of COX-2 and MDR1 mRNAs. Expression levels were measured in 26 pre- and post-chemotherapy biopsies from patients with adenocarcinoma of the gastro-oesophageal junction, using HPRT1 and TBP as suitable reference genes.

Results

Primers for COX-2 and MDR1 were validated with >98% efficiency and a coefficient of variance of <2%. COX-2 and MDR1 mRNA was detected in all specimens; mRNA expression in post-chemotherapy biopsies compared to pre-chemotherapy biopsies was 3.2 and 4.9-fold respectively.

Conclusions

The expression of COX-2 and MDR1 is upregulated following two cycles of induction chemotherapy in patients with adenocarcinoma of the gastro-oesophageal junction. This has implications for the selection of chemotherapeutic agents and the duration of chemotherapy in the treatment of this disease.

In Vitro Inhibition Of Angiogenesis By Prostatomes

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Aims

Prostatomes are organelles that are secreted by human prostate epithelial cells and appear freely in semen. They are involved in a number of biological functions such as sperm motility and immunomodulation. Autoantibodies to prostatomes have been observed in patients with prostate cancer, suggesting that they may enter prostate tissue in this disease. They have also been shown to reduce cell survival in some prostate tumour cell lines. The effect of prostatomes on other aspects of tumour development was studied.

Materials and Methods

Prostatomes were prepared from pooled post-vasectomy semen. The growth inhibitory effect of prostatomes on Human Umbilical Vein Endothelial Cells (HUVECs) was assayed by spectrophotometric measurement of residual biomass, expressed as a percentage of a control. Preparations of HUVECs on a matrigel base were prepared, and exposed to a range of concentrations of prostatomes. Angiogenesis was measured by quantifying the development of capillary like networks.

Results

Prostatome preparations were not shown to have a significant effect on HUVEC survival at any of the concentrations assayed. The angiogenesis assays showed a dose-dependant reduction in angiogenesis with greater concentrations of prostatomes.

Conclusions

Prostatomes are biologically active particles with a variety of effects, which may have a role in the development and progression of malignant prostate disease. This study adds the in-vitro inhibition of angiogenesis to the known actions of prostatomes.

BST PRIZE SESSION

A "Simple" Cholecystectomy: The Value Of The Pre-Operative Assessment

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Case History

A 22 year old man presented with a 2 day history of epigastric pain, jaundice, nausea and pyrexia. Clinical examination, blood biochemistry and ultrasound confirmed a diagnosis of cholecystitis. Following 4 days of intravenous antibiotic therapy and a therapeutic ERCP, he had complete relief from his symptoms. He was discharged from hospital and was listed for laparoscopic cholecystectomy.

He attended for a routine pre-operative assessment by the Junior House Officer, one week before his operation date. He had no other systemic complaints and his medical history was uneventful. However, on examination, the House Officer noted a widened pulse pressure of 137/57 and an early diastolic murmur. An ECG was performed which suggested left ventricular hypertrophy. In view of these abnormal findings, the patient was referred for an echocardiogram. This revealed an enlarged aortic root of 6.0 cm causing severe aortic regurgitation. He was referred to a cardiothoracic surgeon who conveyed to him the diagnosis of aortic root aneurysm. 3 weeks later a valve-preserving aortic root replacement was performed. Good left ventricular function was achieved and the patient made a full recovery.

The pathologist's report of the excised aorta showed. "Diffuse cystic medial necrosis suggesting an underlying connective tissue disorder."

Discussion

There is no record in the literature of incidental diagnoses being made during the pre-operative assessment. There is much on the management of aortic root aneurysm as well as the pathophysiology of the connective

tissue diseases underlying it. This is explored below.

The aortic root is the section of the aorta between the left ventricle and the ascending aorta. It is defined distinctly from the ascending aorta as it contains the leaflets and sinuses of the aortic valve (1). Aortic root aneurysm is a rare but potentially fatal condition. The healthy aortic root has an average diameter of 3.0cm; in this case it was 6.0cm. Dilatation of the root prevents proper coaptation of the valve-leaflets during ventricular diastole resulting in the classic clinical picture of a widened pulse pressure, water-hammer pulse, and early diastolic murmur of aortic incompetence (2).

Valve-sparing operations for aortic root aneurysms have low in hospital mortality and good long-term survival times (2,3). The aortic root and ascending aorta are excised leaving only 3 "stalks" to which the 3 leaflets of the valve attach. The excised aorta is then replaced with a Dacron graft (Figure 1) (4). By this method the maximum amount of diseased aorta can be excised, whilst leaving the patient with their natural aortic valve, negating the need for a prosthetic valve requiring lifelong anticoagulation (5).

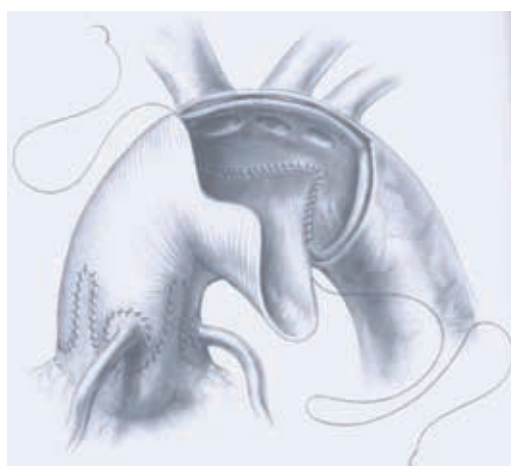


Fig 1. The aortic root is excised leaving 3 "stalks". A Dacron graft anastomosed and the coronary arteries attached to the graft.

Unlike aneurysms of more distal parts of the aorta, the usual aetiology is not atheroma and hypertension, but degeneration of the aortic media caused by a connective tissue disorder, usually Marfan's syndrome (6). This autosomal dominant condition affects around 1 in 10,000 people. Caused by a defect on Chromosome 15, it results in abnormal fibrillin deposition and therefore inhibits formation of proper elastic fibres (7). Elastic fibres are essential to the structure of

many tissues. The media of human arteries are made of dense elastic fibres, hence the Marfan patient has weakened arteries and is thus susceptible to aneurysms. Diagnosis of Marfan's syndrome is based on the fulfilment of the DePaepe criteria. This involves demonstrating the involvement of several systems or a positive family history (8). In this case, there was no evidence of further systemic characteristics nor a family history. His connective tissue disorder remains undefined.

This case illustrates the need for attentive pre-operative assessment. The diastolic murmur and widened pulse pressure are subtle clinical signs. They could easily have been missed during the assessment of an apparently healthy 22 year old male undergoing relatively routine surgery. Whilst it is unlikely that the added myocardial stress caused by a cholecystectomy would have been fatal, it is highly likely that his aorta would have progressively weakened over the next few years, increasing the risk of catastrophic rupture. Prompt diagnosis allowed early intervention, before substantial valvular injury had occurred and thus enabled preservation of his natural valve. Whilst Nursing Practitioners and other "non-medical" professionals are increasingly performing pre-operative assessments for "routine" surgery, this case illustrates the need for thorough pre-operative clerking in all patients, by doctors proficient in their clinical skills and with the confidence to act on their findings.

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