AN OPERATION ON THE STOMACH THAT LOOKS AFTER YOUR HEART

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Coronary heart disease (CHD) is the commonest cause of death in the western world. The increasing incidence of obesity poses a serious risk of CHD because of its effects on serum lipids, type II diabetes, hypertension and left ventricular hypertrophy. The Framingham group have devised a CHD score based on a 40 year follow-up of over 5000 men and women. It is robust and validated to predict the risk that CHD will develop in the ensuing 10 years. The Magistratess and Mill procedures for morbidity and PEGs and diabetes was used to measure the risk of CHD in 24 obese patients (23 females) with a median age of 40 years (range 31-48), before and 24 months after the M&M procedure for morbid obesity. The Framingham score, median (range) was reduced from 9 (5-29) to 3(1-7) with a median percentage reduction of 67% (P < 0.001). Weight was reduced from 137kg (127-200) to 91kg (62-114) with a median 58% reduction in excess body weight. Median BMI was reduced from 51 (36-61) to 34 (27-41) kg/m². NIDDM was cured in all 8 patients while impaired glucose tolerance reverted to normal in a further 3 patients. Five of eight hypertensive patients (SBP > 160) came off anti-hypertensive medication and their blood pressure reverted to normal. Thus, the M&M procedure led to a significant reduction both in weight and the risk of CHD in morbidly obese patients.

Audit and inflammatory bowel disease

PATS FOR PEGS - AUDITED

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Before January 1996 there was no coordinated approach to the management of patients with percutaneous endoscopic gastrostomies (PEG) in this unit. Medical assessment of the gastric carcer (CLN) was divided between the general medical and gastroenterological teams. To provide a more coordinated approach a patient with gastroenterological intervention only when a problem developed. Other disciplines made their individual contribution.

A PEG advice team (PAT), comprising a clinical liaison nurse (CLN), dietitian, speech therapist and gastroenterologist, with back up from a dietitian and nurse manager, was established on 1st January 1996. The PAT aimed to provide pre-procedural assessment and counselling, insert the PEG, educate the patient and carers regarding feeding and general care of the PEG, provide ongoing supervision of patients, and to proactively review outpatients a minimum of 3 monthly.

In the 5 months before the PAT there were 16 PEG insertions and in the 5 months after there were 22, an increase of 38%. By 18.5.96 there were 31 patients under the team's care, of which 32% had motor neurone disease, 26% had strokes and 10% had small bowel obstruction. It was planned to review 2 outpatients every two weeks, but demand is such that 2 or 3 are seen each week. The most common problems were leakage around the stoma, a problem easily solved by education of patient and carer. The CLN was expected to devote 1 day/week to PAT duties, but they account for 3 days as she is in demand to provide counselling and advice, and visit outlying institutions when patients are unable to attend hospital.

PEG patients have problems which a proactive PAT is well placed to solve. The CLN fulfills a crucial role in coordinating it.

LONG-TERM OUTCOME OF GASTROSTOMY FEEDING IN DYSPHAGIC STROKE

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Percutaneous Endoscopic Gastrostomy (PEG) is now preferable to nasogastric feeding in dysphagic stroke patients. Short-term studies have shown PEGs are safe and better tolerated. Long-term outcome data is lacking, nor is it clear how early PEG tubes should be placed.

Methods Case notes were obtained for 126 patients who underwent PEG placement for acute dysphagic stroke at University Hospital of Wales and Cardiff Royal Infirmary between 1991 and 1995. Complete outcome data was available for 120 patients using case notes, PEG follow-up clinic records, GP records and nursing home records. Median follow-up (FU) was 30 months (range 4 - 71).

Results Median age 79 (range 53 - 94). Median interval between stroke and PEG insertion was 22 days, 41 patients had PEG within 2 weeks, 33 in week 3-4 and 52 after 4 weeks. 35 (28%) died in hospital, 32 (25%) discharged to long-stay hospital, 42 (33%) to nursing home and 16 (13%) to their own home. Overall 35 (28%) recovered swallow and had PEG removed. 6 (5%) were taking diet orally but still received some feeding by PEG. 72 (57%) died with PEG in place (nif oral). 9 (7%) continued with PEG feeding and NBM at FU. Time

<table>
<thead>
<tr>
<th>Oral intake, PEG removed</th>
<th>PEG in use, some oral intake</th>
<th>PEG in use, NBM</th>
<th>Died with PEG, NBM</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 19 29 32 33</td>
<td>1 1 3 6</td>
<td>120 65 48 29 10</td>
<td>43 51 57 67 71</td>
</tr>
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No. available for observation 120 119 116 112 111

61 complications occurred in 54 patients. Early: 1 died within 24 hrs, 3 pneumoperitoneum, 1 leak around PEG. Late: aspiration pneumonia 22, site infection 12, tube blocked 12, MRSA 4, fell out 4, snapped 1. PEGs placed within 14 days of stroke were in use (ie until death or swallow recovery) for <1 month in 32%, compared to 20% and 19% for PEGs placed either 14-28 days or >28 days after stroke (p<NS).

Conclusions Early placement of PEG is worthwhile. Aspiration pneumonia is the common complication. Long-term FU is essential as late recovery of swallow (>6 months) occurred in 17%.

AN AUDIT OF THE INVESTIGATION OF 'LONE' IRON DEFICIENCY IN A GASTROINTESTINAL UNIT

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Endoscopy records between 1st March 1990 and 28th February 1995 were searched for details of patients investigated for iron deficiency in whom neither the history nor a general examination had offered any pointer to the causative pathology. 128 cases were found to satisfy this criterion.

A diagnosis considered relevant was made in 48 (38%) patients. Median time from presentation to diagnosis was 1 month (range 0 - 12). A single investigation sufficed in 20 (42%) of these patients, and only 9 (19%) required more than 2 investigations. The age group with the highest diagnostic rate (52%) was that of patients between 65 and 74. The proportion of the 13 patients diagnosed at age 75 or over (30%) did not differ from that of the 7 patients under 45 (33%), but 6 different gastrointestinal lesions were found in the first of these groups, while in the second there were only 2 pathologies, of which coeliac disease accounted for all except 1 case. As had been expected, the elimination of patients with rectal bleeding skewed the distribution of colonic cancers such that 10 of 16 were right-sided. Less predictable was the finding that only 1 of 12 haemorrhagic lesions in the upper GI tract occurred in a patient under 65.

Upper GI endoscopy was performed in 111 (85%) patients, 87 times as the first investigation. Its diagnostic yield was 16%, as against 26% for colonoscopy, 10% for barium enema, and 7% for small bowel. A suggested protocol for the investigation of 'lone' iron deficiency, based on data gathered both during the above period and at follow-up, will be presented.
AN AUDIT OF LONG-TERM PPI PRESCRIBING FOR GORD IN GENERAL PRACTICE.
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Allegations about over-prescription of long-term proton pump inhibitor (PPI) therapy for dyspepsia seem to be founded on relatively little data derived from direct review of current prescribing practice. We have obtained data relating to long-term (repeat prescription) PPI therapy from 6 general practices in Lothian in which 38 GP principals are responsible for 57,766 patients. The PPI prescribing patterns of these practices was a reasonable cross-section of the PPI prescribing pattern in the Lothian area.

In the 6 practices, PPI repeat prescriptions were being issued to 0.3-1.6% of registered patients. The diagnoses warranting treatment were given as gastro-oesophageal reflux disease (GORD) n=193 (52.0% of total on long-term PPI), peptic ulceration n=89 (24.0%), unspecified dyspepsia n=77 (20.8%), duodenitis n=9 (2.4%), unknown / other n=3 (0.8%).

Amongst the patients with GORD, the possibility of changing their medication to reduce the degree of acid suppression was considered. Available records demonstrated that reduction had previously been attempted unsuccessfully in 55 (28.5%). In a further 3 patients, current medication was evidently inadequate. 7 patients (3.6%) had an endoscopic diagnosis of oesophagitis at grade 3 or more. In a further 47 patients (24.4%) there had been specific consultant advice to keep the patient on long-term PPI at the current dose. 17 patients (8.8%) had other medical conditions which were the more important focus of current attention and clinical management.

These observations indicate that amongst patients receiving long-term PPI therapy for a diagnosis of GORD, only one quarter or thereabouts are obvious candidates for consideration of reduction in their antisecretory therapy.

THE SUCCESS OF AUDITED GUIDELINES IN THE MANAGEMENT OF INFLAMMATORY BOWEL DISEASE
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Consensus guidelines were produced in 1993 by the gastroenterologists, gastro-intestinal surgeons and a cross-section of general practitioners in a single district health authority. The purpose of the guidelines was to develop a seamless pattern of care with a common approach to diagnosis and treatment. It was hoped that they would encourage a movement towards care in the community for many patients and so speed up new consultation rates. The guidelines were professionally published and distributed to all 450 general practitioners in the district. Their introduction was supported by a series of approved (PGEA) meetings.

The value of the guidelines was assessed by an audit of the quality of referral letters, the adherence to guidelines on re-referral and monitoring the outcome of discharges from hospital follow-up.

The results of the study showed that referral letters have not improved since the launch of the guidelines in the amount of information they provide. However, it has shown that only 5% (3 of 56) of the stable patients who were discharged from out-patients were re-referred with a referral letter being within the guidelines stated reasons for this. Re-referrals were made between 12 - 15 months of their discharge. Guidelines have helped the G.P.s to manage stable patients in the community, and hence the out patient clinics can function more effectively and respond quicker to new or urgent problems.

IS A HOSPITAL PRESCRIBING POLICY FOR HELICOBACTER PYLORI ERADICATION COST EFFECTIVE?
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H pylori eradication was introduced gradually in this hospital from 1991 without any planning by Medical and Surgical Gastroenterologists.

From July to October 1994 the Pharmacy Department conducted an audit on out-patient prescriptions from the Medical and Surgical Directories. This revealed a total of 16 different regimes some based on clinical trials some not with community costs varying from £14.00 to £158.00 per course with widely differing reported eradication rates.

As a result a prescribing policy was introduced from April 1995 with two well established standard regimes: Regime 1 - Omeprazole 20mg twice daily, Amoxicillin 500mg tds and Metronidazole 400mg tds all for one week for all patients other than those sensitive to Penicillin who were prescribed Regime 2 - Omeprazole 20mg bd, Clarithromycin 250mg bd and Tinidazole 500mg bd. The respective hospital costs were £8.19 and £26.02 per course, community costs £20.33 and £37.02 and reported eradication rates 91% and 96%.

Out-patient prescriptions were re-audited from April to October 1995. Of the 63 prescriptions evaluated 84% were for the standard regimes: 69% regime 1 and 15% regime 2. Of the remaining 16% all but 5% were only marginally different from the agreed regimes.

The July to October prescribing of 1994 and 1995 were compared identifying hospital savings of £332.00 (a 42% reduction in unit costs) and hence community savings of £1000.00 (or £1500.00 at community prices) with anticipated improvement in eradication.

Thus a prescribing policy can save money and should improve eradication rates.

Assessment of Crohn’s disease activity by Duplex/colour doppler sonography.
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The assessment of disease activity in patients with Crohn’s disease involves the integration of a number of clinical, laboratory and radiological parameters. No single parameter provides a reliable and immediate guide to disease activity. In a study of 62 patients, we investigated the role of Duplex Colour Doppler Sonography (DCDS) of the superior mesenteric artery (SMA) as a non-invasive immediate reflection of activity of Crohn’s disease.

Methods and Patients: Baseline SMA volume flow rate, the response to a food challenge and peak flow rates were recorded in 12 controls, 18 patients with active, 21 in patients with inactive, Crohn’s disease. Some patients with active disease were followed longitudinally to monitor their responses following the introduction of systemic corticosteroids. Subjects were studied supine after an 8 hour fast. Baseline flow rates were recorded initially and then a standard food challenge was given (150ml Ensure Plus). Repeat flow rates were recorded every 5 min for 10 min and then every 10 min for up to 60 min. Results. Baseline flow rates were not significant in differentiating active from inactive disease. The time interval to a food challenge to peak SMA flow rate was significantly higher in patients with inactive disease compared to patients with untreated active disease (33:2 min ± 2:64 (SE) v 17:64 min ± 2:13 < 0.001). A similar, though less significant, difference was noticed with controls v untreated active patients and with treated v untreated active patients (both p < 0.05). Those patients followed up after the introduction of systemic corticosteroids showed a significant upward trend in their time to peak flow (23:12 min v. 2:06 v 33:6 + 2:27 / p < 0.003. Conclusion. This technique is useful in offering an immediate, non invasive means of assessing Crohn’s disease activity. Further longitudinal follow up data is important.
ANCA AND HLA GENES IN NORTH EUROPEAN PATIENTS WITH CROHN'S DISEASE
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Background Our recent data provide evidence that HLA genes may determine ANCA status in ulcerative colitis (UC): in North European patients, ANCA prevalence and ELISA binding was increased in DR3 DQ2 TNF-2-positive UC patients, whereas in California, ANCA status was associated with HLA DR2. Aim To examine the relationship between ANCA status, HLA genotype and clinical patterns of Crohn's disease. Patients 116 North European patients with Crohn's disease. All were UK residents. Details of age of onset, extent, family history and surgery were available. Controls 58 healthy ethnically matched hospital workers. Methods ANCA typing was performed using a fixed neutrophil ELISA and indirect immunofluorescence on ELISA positive (binding ≥10% of positive controls) samples. Genotyping for HLA DRB1, DQB1 and for the bi-allelic polymorphism at residue -308 of the TNF promoter region was performed using sequence specific primers. Results 46% of CD patients (18.5% pANCA, 27.1% cANCA and 29.3% of healthy controls (12.1% pANCA, 15.5% cANCA) were ANCA positive. ELISA binding in CD was lower compared with UC (mean ± SD 14.5 ± 18.8 v 40.5 ± 44.1), pANCA-positive CD samples displayed higher binding than cANCA positive CD (mean ± SD 32.8 ± 34.4% versus 15.7% ± 7.0, p = 0.028). Only 15 CD samples (13%) attained ELISA binding greater than 20% - all of these patients had colonic disease. The prevalence of ANCA (59.1% versus 39.4%, p = 0.04) and ELISA binding (20.2% ± 28% versus 8% ± 11.6%, p = 0.01) were increased in DQ7 positive patients, compared with DQ7 negative patients. Conclusions Low concentrations of ANCA are detectable in plasma of many CD patients and healthy subjects. High concentrations of ANCA are restricted to a proportion of CD patients with colonic involvement, and may represent a serological marker of disease heterogeneity.

MUCOSAL REGENERATION IS ASSOCIATED WITH A DECLINE OF EPITHELIAL DEFENCE MECHANISMS.
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Intestinal diseases associated with recurrent mucosal regeneration eg inflammatory bowel disease, have increased cancer incidence. We propose the hypothesis that undifferentiated progenitor epithelium which predominates during early regeneration, may lack specific functional defences and thus accelerate a window of oncogenic injury. This study investigates phase I and II detoxification isoenzymes relevant to genotoxic injury and tissue maturation, using a novel model of mucosal regeneration.

Methods: Disaggregated intestinal progenitor epithelium was grafted subcutaneously and selectively recovered at different temporal stages of regeneration. Expression of cytochrome P450 mono-oxygenase (CYP P450 isoforms 1A1,1A2,2B1, 2B2,2C6, 3A1,4A1) and glutathione-S-transferase (GST; Yc,Yy,Yk,Yb1, Yf) were sought by immunoblot at different temporal stages (3, 7,10, 14 and 21 days) after grafting. CYP P450 and GST activity were assessed using specific substrates (eg, ethoxyresorufin [CYP1A1], 1-chloro-2,4-dinitrobenzene (CDNB) [GST]). Results: were compared against age matched control rat small intestine. Studies were carried out on regenerating vs intact tissue from 8 intestines, on 3 occasions.

Results: Component processes of the regeneration response were identified viz epithelial colony formation, growth, cytokidifferentiation and neomucosal morphogenesis. CYP P450, CYP P450 2B1,2B2,2C6 and GST Y protein expression and activity were decreased or absent in regenerating intestine compared to control.

Conclusions: Phase I and II detoxification isoenzyme expression and activity appear reduced during early mucosal regeneration. These findings may have relevance to genotoxic injury and carcinogenesis associated with regeneration.