DIRECT MEASUREMENT OF POST-PRANDIAL PORTAL HAEMODYNAMICS.

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Post-prandial changes in portal haemodynamics have been reported using derived methods or doppler ultrasonography. The presence of TIPSS allows direct assessment of portal venous response to a protein meal.

Methods: We assessed the portal and systemic haemodynamic response to a protein meal in 10 cirrhotic patients with TIPSS in situ (mean age 42 (7) years, mean Childs-Pugh score 7.8 (0.6)). Portal venous pressure (PVP) and flow (PVF) (measured by direct reverse thermodilution with double thermostat catheter inserted in portal vein), right atrial pressure (RAP) and mean arterial pressure (MAP) were recorded whilst fasting and every 15 minutes for one hour following a 505 kcal protein based meal. Pre- and post-prandial portal venous blood gas measurements were obtained.

Results: The maximal change in haemodynamic parameters from fasting levels are shown below. All measurements returned to normal 60 minutes following the meal and there were no significant changes between pre- and post-prandial portal venous blood gas analyses.

<table>
<thead>
<tr>
<th>MAP</th>
<th>RAP</th>
<th>PVF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fasting: 79.5 (2.6)</td>
<td>9.0 (8.8)</td>
<td>9.2 (1.2)</td>
</tr>
<tr>
<td>Post-prandial: 78.8 (1.9)</td>
<td>6.7 (0.7)</td>
<td>13.0 (1.3)</td>
</tr>
<tr>
<td>p value: NS</td>
<td>NS</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Results are expressed as mean (standard error). Pressures are shown in mmHg and flow in ml/min.

Conclusion: After a protein meal, PVP and PVF increase significantly whilst MAP and RAP remain unchanged. This technique allows direct assessment of therapeutic strategies to reduce post-prandial hyperaemia.

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ARTIFICIAL NEURAL NETWORK VS MULTIVARIATE LOGISTIC REGRESSION ANALYSIS FOR THE PREDICTION OF EARLY MORTALITY AFTER TIPSS FOR VARICEAL HAAEMORRHAGE.

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Background and Aims: TIPSS for variceal haemorrhage is followed by deterioration in liver function tests and early mortality in about 20-30% patients. The purpose of this study was to compare the performance of a trained Artificial neural network (ANN) with the model based upon multiple logistic regression (MLR).

Methods: Over a four-year-period 82 consecutive patients undergoing TIPSS for variceal haemorrhage were studied. They were divided into two groups. Group 1 (66 patients) comprised the patients that were used to train the ANNs and establish the model based upon the results of MLR. Group II (16 patients) comprised the patients that were used in a blinded manner to assess the trained neural network and also the MLR. ANN: A feed-forward fully-connected ANN with 10 hidden neurons (DynamiMindTM) was trained with the 25 clinical variables related to clinical or biological data obtained from patients in Group I (input) to predict early mortality (output). MLR: Significant independent predictors (sodium; p < 0.001 and Pugh score p < 0.001) were combined using the formula: p = e^x + 1/e^x, where p is the predicted probability of survival and x = 13.42 - 0.1429 X [sodium] + 0.445 X [Pugh score]. This network and the MLR model were then applied to predict early mortality. Results: Sensitivity and specificity for predicting early mortality were 100% and 87.5% for the ANN and 25% and 93.8% for the MLR, respectively.

Conclusion: This study illustrates that ANN analysis can be useful in the prediction of early mortality before TIPSS is inserted, using routine clinical and biochemical parameters. Moving from the assessment of outcome by current methods towards ANN analysis will require similar comparisons, prospective evaluation and an open mind.

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INDICATIONS FOR MAINTENANCE ACID SUPPRESSION AT THE GENERAL PRACTICE/HOSPITAL INTERFACE.

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Introduction: Repeat prescription of H2 receptor antagonists (H2RA) and proton pump inhibitors (PPI) in gastrooesophageal reflux disease (GORD) and peptic ulcer is commonplace and expensive.

Aim: We sought to determine the indication for maintenance acid suppressive therapy at the general practice/hospital interface.

Methods: We examined the GP case records of 312 patients on long term acid suppression representing 4% of the total practice list (8,185) and consuming 11% (£69,000) of the total annual drug budget (£640,000).

Results: 246 patients (79%) had GORD, 46 patients oesophageal ulcer (15%) and 20 patients gastric ulcer (6%). No patients of the 66 peptic ulcer patients (47%) had been tested for H. pylori, (13 positive).

The diagnosis was established by gastroscopy in 218 patients (70%) and barium meal in 13 (4%). Neither investigation had been undertaken in the remaining 81 patients (26%).

The median age at the start of treatment was 62 years (range 6-97 years) and 44 patients were over 80 yrs. 203 patients used H2RA's (65%) and 109 patients PPI's (35%). The median duration of treatment was 4 years (range 1-20yrs).

Conclusion: Scrutiny of GP records is likely to identify examples of the over-prescription of maintenance acid suppressive therapy and should be a prerequisite to assessing the impact of alternative therapeutic strategies in the management of GORD and peptic ulcer.

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H. PYLORI SEROLOGY IN THE INVESTIGATION OF DYSPEPSIA: A GENERAL PRACTICE BASED FOLLOW-UP STUDY.

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Introduction: H. pylori serology has been proposed as a screening tool to focus endoscopy resources in young dyspepsia. We offer ELISA Helicobacter serology to GPs prior to referral for endoscopy.

Methods: Patients identified from a serology database were followed by examination of GP records for data on investigation, diagnosis, and H. pylori eradication therapy (ET). Prescriptions for antisecretory treatment and number of GP consultations were the outcome measures.

Results: 1262 patients whose blood was tested for H. pylori over 14 months we examined the GP records of 958. 220 patients whose serology was performed after investigation are excluded from this analysis. 758 had neither an investigation (016) or investigation following serology (312).

<table>
<thead>
<tr>
<th>Diagnoses</th>
<th>Hp serology</th>
<th>Had eradication therapy</th>
<th>n (xSD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>406 none (no tests)</td>
<td>157 P</td>
<td>113 c=0.65 (0.10)</td>
<td>r=32 c=0.42 (0.65)</td>
</tr>
<tr>
<td>249 N</td>
<td>5 c=0.96 (0.65)</td>
<td>224 c=0.59 (0.47)</td>
<td></td>
</tr>
<tr>
<td>269 non ulcers (after tests)</td>
<td>189 P</td>
<td>113 c=0.77 (0.44)</td>
<td>r=58 c=0.83 (0.49)</td>
</tr>
<tr>
<td>80 N</td>
<td>1 c=0.10 (0.84)</td>
<td>r=60 c=0.92 (0.79)</td>
<td></td>
</tr>
<tr>
<td>63 ulcers</td>
<td>60 P</td>
<td>56 c=0.50 (0.84)</td>
<td>r=46 c=0.88 (0.84)</td>
</tr>
</tbody>
</table>

3 N | 2

Legend: c=mean consultations/patient/year, r=mean days prescribed treatment/patient/year.

Of 406 seropositive 282 received ET, 118(29%) without further investigation. 124(43%) of those receiving ET had a further test to confirm success. In the 332 undergoing investigation there were 63 ulcers (3 seropositive, 2 <50 yrs) and 2 gastric cancers (>50). Neither the differences between non-ulcer patients (NUP) who did and did not have ET nor those between seropositive and seronegative NUP were significant for either outcome measure. Seropositive who had no investigation had fewer prescriptions (p=0.03, Anova) and consultations (p<0.001) than either seropositive or seronegative NUP but not ulcer patients.

Conclusions: 29% of dyspeptics seropositive for H. pylori received ET with no investigation. From our data, withholding endoscopy from seropositive patients under 50 would have missed 3.3% of ulcers. Treatment with ET was not beneficial in seropositive or seronegative patients regardless of prescription rates, in the absence of proven ulcer.
SAFETY OF DAYCASE ERCP BALLOON SPINHENTEROPLASTY. H.D. Duncan, L. Hodgkinson, M. Deskin, J.R.B. Green. Department of Gastroenterology, City General Hospital, Newcastle Road, Stock-on-Trent.

Introduction: Patients undergoing a therapeutic ERCP are often routinely admitted for 24 to 48 hours post procedure in many hospitals. Following a previous audit of day case ERCPs, we undertook a prospective audit of daycase balloon sphincteroplasty (BS). BS has been used primarily in the management of benign and malignant biliary strictures. We have been increasingly using BS in the management of biliary stones (<15mm) due to its ease of use by trainees. Aim: To determine if daycase BS for stone extraction and papillary stenosis is a safe procedure.

Methods: Over a 4 month period, 31 consecutive daycase patients who underwent BS (mean age 59.8 years, range 22 - 89 years, 20 females) were audited to ascertain the safety of this procedure. Patients were observed for 2 hours post procedure before being discharged home, with 30 day follow up.

Results: 28 patients underwent BS of the sphincter of Oddi including 1 patient who had BS without any complications to enable stent insertion as the duct could not be cleared of stones and 1 patient underwent a percutaneous transhepatic cholangiogram to assist in balloon placement - this patient was admitted routinely post procedure. 1 patient had BS of a pancreatic stricture, 1 had BS of a common bile duct stenosis and 1 patient had BS of a stent inserted previously for a cholangiocarcinoma (died 67 days later from liver metastases). These last three patients were discharged home 2 hours post BS and had no immediate or late complications. 8 patients had papillary stenosis and 20 patients had biliary stones. 1 patient with papillary stenosis had some discomfort during BS but otherwise there were no complications either during or within the 2 hour observation period. 2 patients were discharged home on antibiotics as the procedure had been prolonged. 1 (0.3%) patient was admitted 24 hours post ERCP with non specific abdominal pain and made an uneventful recovery.

Conclusion: BS can be performed as a daycase procedure with significant cost savings and is easily learned with a minimal morbidity. A longer prospective audit is currently in progress.


To audit the natural history, diagnostic criteria, symptoms and management of Barretts Oesophagus (BO) in ordinary clinical practice we have collected information at registration from a large group of patients. Methods: 638 patients with BO diagnosed at endoscopy between January 1991 and March 1994 in 15 Midlands hospitals were registered. All were "tagged" at registration with OPCS (Southport) to identify deaths from all causes. A questionnaire was sent to patients with information on symptoms, and smoking and alcohol habits. No reminders were sent. No clinical protocol for follow-up was suggested and hospitals were encouraged to continue to use their standard procedures. Clinical details were collected from case notes which were also inspected annually. Demographics: 350 men and 288 women were registered. The mean ages were 63 and 70 years respectively (mean 66y, SD 13.7). 443 had diagnostic biopsies at registration while 195 did not. 16 had upper GI cancer at registration and 30 cases showed mild to moderate dysplasia. Questionnaires: 387 patients (179 females, average age 69y; 206 males, average age 64y) returned questionnaires (60% response rate). Only 14 women and 29 men admitted to smoking cigarettes (11%). Mortality: 92 patients have died (certified causes oesophageal cancer 16, gastric cancer 5). 12 of these 21 deaths from upper GI cancer were in 1 year, 5 within two years and 4 at over two years from registration. Management: At registration 173 patients (27%) had received no antibiotic treatment, 76 were taking antacids, 197 were on H2RA and 262 were on omeprazole. 103 patients were taking more than one of these agents. Routine endoscopic follow up was performed in 8 centres in 246 patients while the remainder had no endoscopic follow-up. Oesophageal biopsies were taken in 114 of which 11 showed mild/moderate dysplasia and 2 severe dysplasia. Conclusion: Most units are not undertaking routine surveillance in BO. Most deaths from oesophageal cancer associated with BO occur very soon after diagnosis of BO and would probably not be preventable by surveillance. Longterm data from this registry could be important to assess the potential effects of surveillance programmes.

An audit of transjugular liver biopsies performed at the Royal Free Hospital over 18 months. Patch D, Hamilton M. Matthews G, Dick R, Burroughs AK. The Hepato-biliary and Liver Transplantation Unit, The Royal Free Hampstead NHS Trust, London NW3.

Introduction: Transjugular biopsies are performed when a percutaneous biopsy (standard or plugged) cannot be performed safely.

As a technique, it has been criticised for providing insufficient histological material. Our indications for this procedure were standardised as follows: PT=20 secs, platelets<40x10^9, and moderate or severe ascites. We present an audit.

Methods: 79 transjugular biopsies were performed over an 18 month period. 35 patient were post liver transplantation. A standard reverse bevel Cook’s needle (William Cook, Bjaevedek, Denmark) was used in 71 cases. Following its commercial introduction, the Cook’s ‘QuickCore’ was used in 8 patients when a sample could not be obtained using the aspiration needle. Radiological and haematological data were collected at the time of biopsy. All successful biopsies were reviewed in the Department of Histology.

Results: Moderate or severe ascites was present in 27%, and the average PT was 23 seconds (range 13-50). Average platelet count was 106 (range 11-320). The mean on/off table time was 40 mins, and on average 25mls of contrast was required. There were 9 technical failures. 4 patients were found to have internal jugular vein thrombosis secondary to Hickman lines, and in 5 patients the sample was too small. Thus material sufficient for an histological diagnosis was obtained in 70/79 (88%). The mean tissue size was 11x2mm (Cook’s needle) and 14x0.75mm (Quickcore). There were no complications.

Conclusion: Transjugular biopsies appear to be safe, and provide adequate histological material in patients who cannot otherwise be biopsied. Modifications of the equipment have allowed biopsies to be reliably obtained from cirrhotic livers.

IDENTIFICATION OF A SUBSTANTIAL RISK FACTOR FOR DEVELOPMENT OF CARCINOMA IN BARRETTS OESOPHAGUS. A. van der Burg, C. Dees, M. Blankenstein. Division of Gastroenterology, University Hospital Rotterdam and Institute of Epidemiology and Biostatistics, Erasmus University Rotterdam, The Netherlands.

Endoscopic follow-up of patients with Barrett’s Oesophagus (BO) is of little use because of the lack of predictive factors identifying patients who are at high risk of developing carcinoma. A cohort of all 186 patients with BO over at least 3 cm and without carcinoma identified between 1973 and 1986 at upper GI endoscopy was followed up to December 1994. The vital status or cause of death could be ascertained in 155 of 166 patients (93%). Eight cases of carcinoma in BO had developed during a follow-up of 1440 patient years (average 9.3 years). Two factors identified at intake endoscopy, were found to be related to the subsequent occurrence of carcinoma. 1. Length of BO > 10 cm (P=0.02) 2. The presence of an ulcer in BO.

An Ulcer in BO has been found in 43 of 155 patients at intake. Six of these 43 patients developed a carcinoma after an average of 5.9 years against 2 in the 121 without ulcer (P=0.009). Of these last two patients, one developed an ulcer in BO 4.6 years after first endoscopy and subsequently a carcinoma developed after 11.3 years.

Conclusions: 1. An ulcer in BO is a highly predictive factor for the development of BO. 2. If only the 43 patients with an ulcer in BO had been followed up 7/8 of the clinically relevant carcinomas would have been identified at the cost of 1/4 of the amount of endoscopic effort.

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