patients (8%), 6 in each group, having a normal QOL. Mean PIS score for the patients was 7.04 ± 0.1 . 53% of the UC patients and 75% of the CD patients ($p=0.006$) were considered well informed (ie. PIQ scores of 7 or more). The mean PIS for UC patients was 6.5 ± 0.4 vs 7.5 ± 0.2 for the CD group ($p=0.001$). There was however no correlation seen between the QOL and PIS scores, both for UC and CD patients ($r=0.3$).

Conclusion: Most patients with IBD have impaired QOL, inspite of having inactive disease. The level of disease related knowledge appears to be better in patients with CD, though that does not seem to affect QOL.

H. pylori/Upper GI/Oesophagus Free Papers: 018-032

018 *HELICOBACTER PYLORI* INFECTION REDUCES SYSTEMIC AVAILABILITY OF DIETARY VITAMIN C

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H. pylori infection is recognized to lower the concentration of vitamin C in gastric juice. The objective of this study was to assess whether this effect of the infection on intragastric vitamin C resulted in reduced bioavailability of the ingested vitamin.

Methods: The study involved 1106 men and women aged 25-74 randomly recruited from the population of north Glasgow. Their *H. pylori* status was determined by measuring serum IgG antibody titres to *H. pylori* using a validated ELISA (Bio-Rad Laboratories Ltd., England). Dietary vitamin C intake was calculated from a food frequency questionnaire. Plasma vitamin C concentrations were measured by a fluorometric assay. Correction was made for potential confounding factors such as age, sex, smoking and social status.

Results: Sixty three percent were *H. pylori* seropositive. The mean plasma vitamin C concentration in those who were *H. pylori* positive was only 65% of that in those classified negative ($p<0.0001$). This was partly explained by the fact that the dietary intake of vitamin C of the *H. pylori* positives was only 86.5% of that of the negatives ($p<0.0001$). Correction for the reduced dietary intake and other potential confounding factors included age, sex, social class and smoking still gave a plasma vitamin C level for *H. pylori* positives which was only 80% of that for the *H. pylori* negatives ($p<0.0001$).

Conclusions: *H. pylori* substantially impairs bio-availability of vitamin C. This, together with the reduced vitamin C intake of *H. pylori* positive subjects markedly reduces the plasma vitamin C level of infected subjects. The reduced circulating levels of vitamin C in *H. pylori* infected subjects may contribute to the aetiology of gastric cancer, as well as other diseases associated with antioxidant deficiency.

019 ADAM17 AND TIMP3 mRNA EXPRESSION IN GASTRIC MUCOSA INFECTED WITH *H. PYLORI* AND IN GASTRIC CANCER

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Introduction: ADAM17 (a disintegrin and metalloproteinase) protein is implicated in the shedding of TNF α , TGF α , L-selectin and the p75 TNF receptor. Our previous work demonstrated that *H. pylori* induced ADAM17 gene expression in gastric epithelial cells.

Aims: To examine ADAM17 and the specific inhibitor TIMP3 mRNA expression in gastric mucosa of patients infected with *H. pylori* and patients with gastric cancer.

Methods: Endoscopic antral and corpus biopsies were obtained from 54 dyspeptic patients without any medication and 9 gastric cancer operative sections for semiquantitative PCR and histology. The ratio of ADAM17 and TIMP3 transcripts to that of G3PDH was determined by computer image analysis.

Results: In the antral mucosa, ADAM17 mRNA expression in patients with *H. pylori* infection (mean $\pm$ SEM 0.24 ± 0.07 , $n=27$) was significantly greater ($p<0.05$) than in uninfected patients with normal mucosa (0.08 ± 0.04 , $n=16$). There was a significant correlation ($p<0.05$) between the expression of ADAM17 and mononuclear cell infiltration. ADAM17 transcripts in gastric cancer mucosa (0.40 ± 0.10 , $n=9$) were also upregulated ($p<0.01$) compared with normal mucosa. TIMP3 mRNA expression was greater in gastric cancer mucosa (1.0 ± 0.11 , $n=7$) than in normal mucosa (0.41 ± 0.12 , $n=11$, $p<0.01$) and *H. pylori* infected mucosa (0.65 ± 0.11 , $n=9$, $p<0.05$).

Conclusion: ADAM17 mRNA expression was increased in *H. pylori* infected mucosa and in patients with gastric cancer. ADAM17 is likely to be important in the inflammation induced by *H. pylori* and may also be relevant to the development of malignancy. TIMP3 mRNA expression was also upregulated in gastric cancer mucosa. Further studies are required to localise the cellular origin of ADAM17 and TIMP3 in normal gastric mucosa and in gastric cancer.

020 *HELICOBACTER PYLORI* LEADS TO DECREASED SURFACE EXPRESSION OF β -CATENIN IN EPITHELIAL CELLS

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Background: *H. pylori* is implicated in the pathogenesis of gastric cancer. The cadherin-catenin complex (of which β -catenin is a key signalling component) promotes stable adhesion of epithelial monolayers and is altered in several epithelial cancers, including gastric cancer. Furthermore, germline mutations in the E-cadherin gene have been described in familial gastric cancer.

Aim: To assess the effect of *H. pylori* on cadherin-catenin expression in the HT29 epithelial cell line.

Methods: *H. pylori* strain 60190 (*vacA* s1/m1, *cagA*+) was cocultured with HT29 cells for 24 hours at 37°C. Cells were also incubated with VacA (purified from 60190 by broth culture, precipitation, anion exchange and gel filtration chromatography). Using monoclonal antibodies and confocal microscopy, the distribution of E-Cadherin and β -catenin was studied in two consecutive optical slices, taken 5 μ m apart. Intensity of staining was graded as strong/weak/absent in 200 cell-cell junctions (systematic random selection) from treated and control cells. Immunoblotting was performed for α , β , γ -catenin and E-Cadherin on lysed cell extracts. Experiments were performed on three occasions.

Results: HT29 cells possessed the entire cadherin-catenin complex; the adhesion molecules were localised to junctional membrane domains. Co-culture with *H. pylori* (1000 bacteria/cell) lead to a consistent decrease in surface expression of β -catenin (typical experiment: strong staining in 89% of cell-cell junctions in untreated cells vs. 35% in *H. pylori*-exposed cells). No redistribution of β -catenin to nuclear regions was noted. Intensity and localisation of E-cadherin remained unchanged. No gross changes were seen with VacA addition. Immunoblots confirmed expression of E-cadherin and the three catenins and no gross alterations were seen with *H. pylori* co-culture.

Conclusion: Co-culture of *H. pylori* with epithelial cells leads to perturbation of β -catenin but has no effect on E-cadherin. Modification of β -catenin may be important in the pathogenicity of *H. pylori*.

021 "TWO WEEK WAIT" GUIDELINES FOR UPPER GASTROINTESTINAL CANCER - DO THEY WORK?

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Introduction: National guidelines have recently been introduced with the aim of facilitating the earlier diagnosis and treatment of cancer. In the case of upper GI cancer, there is little published evidence to support the use of these guidelines.

Methods: We performed a prospective audit of all referrals for upper GI cancer under the two week wait guidelines, during the first 2 months the system was in operation at a single teaching hospital. We collected demographic data, clinical details and final diagnoses on all patients. We also collected the same data on all patients who had an upper GI cancer diagnosed during the same period who were not referred by the "2 week wait".

Results: A total of 63 patients were referred (26 male, 37 female) under the "two week wait" scheme, and all appointed within 2 weeks. Only 7 (11%) had a final diagnosis of cancer (see table 1).

Abstract 21, Table 1

Diagnosis	Presentation	Alive at 2/12	?Curable
Oesophageal	Dysphagia	Yes	No
Oesophageal	Anorexia	Yes	No
Oesophageal	R.U.Q. pain	Yes	Yes
Breast	Jaundice	No	No
Lymphoma	Weight loss	No	No
Gastric	Weight loss	No	No
Pancreatic	Weight loss	Yes	Yes

Of these cancer cases, the mean delay to diagnosis was 7 days (range 2–29 days). All were seen within 2 weeks. 4 were still alive and 3 had died at 2 months follow up. Only 2 patients had had surgery for potentially curable disease. 8 other patients had upper GI cancers diagnosed during the same period (6 oesophageal, 2 gastric). One of these was operable.

Conclusions: Cancer patients can be seen and a diagnosis made within a short period to comply with 2 week wait guidelines. Unfortunately, many of the sinister symptoms highlighted in the guidelines suggest advanced disease. An improvement in outcome has yet to be demonstrated.

022 QUALITY OF LIFE AFTER HELICOBACTER PYLORI ERADICATION: A LARGE PROSPECTIVE STUDY IN PRIMARY CARE

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Introduction: Eradication of *Helicobacter pylori* (HP) and amelioration of dyspeptic symptoms may improve quality of life (QOL) of patients with various upper gastrointestinal syndromes. This study examines the impact of HP eradication on the QOL of primary care patients maintained on long term H2 receptor antagonists (H2RA)

Patients and methods: Patients on long-term H2RA were identified from the computerised records of 6 primary care practices. HP status was assessed using a standard serological method. Those who tested positive for HP were offered standard 7 day proton pump inhibitor based triple therapy followed by a urea breath test to confirm HP eradication. Patients were followed up for one year after HP eradication at 6, 24 and 56 weeks respectively with measurements of quality of life, overall feeling of well being, Gastrointestinal symptom rating score (GSRS), severity of dyspeptic symptoms and subsequent need for acid suppression therapy.

Results: 297 HP positive patients participated in this study of whom fifty eight percent had PUD whereas 19% and 10% had non ulcer dyspepsia (NUD) and gastro-oesophageal disease (GORD) respectively. 243(83%) finished the one year follow up with successful HP eradication. This was associated with significant reduction in the amount of H2RA being consumed at the end of one year ($p<0.00001$) along with significant reduction in symptom scores post eradication ($p<0.00001$). Overall 67% of the patients documented an improvement in their QOL and 75% reported a feeling of well being post HP eradication.

Conclusion: HP eradication in patients on long-term H2RA in primary care results in significant reduction in usage of acid suppression drugs and improvement in overall QOL.

023 BENEFIT OF HELICOBACTER PYLORI ERADICATION IN THE TREATMENT OF ULCER-LIKE DYSPEPSIA IN PRIMARY CARE

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Background: The role of *Helicobacter pylori* (Hp) eradication in patients without confirmed ulcer is unclear. The majority of studies have been conducted in secondary care on patients with functional ulcer-like dyspepsia (i.e. confirmed absence of ulcer) with equivocal

results. This study, conducted in primary care, examines the role of Hp eradication in a broader group of patients presenting with ulcer-like symptoms (epigastric pain), merely excluding those with confirmed ulcer.

Methods: 543 patients from 64 primary care centres in UK and Norway were enrolled into the study. 364 patients were assessed as Hp +ve (by near patient antibody blood test). 181 patients were randomised to receive eradication therapy (lansoprazole 30 mg, clarithromycin 250 mg and amoxycillin 1g all bd) for 1 week followed by lansoprazole 30 mg od for 3 or 7 weeks according to symptoms. 183 patients received placebo antibiotics and lansoprazole 30 mg od for 4 or 8 weeks. Treatment was double blind. 179 Hp -ve patients received open treatment with lansoprazole 30 mg od for 4 or 8 weeks. Epigastric pain and other Gastro-Intestinal (GI) symptoms, GI consultations, GI prescriptions and GI investigations were recorded during the treatment period and over a 12-month follow-up phase. Primary efficacy variable was the proportion of patients with relapse during the 12 month follow-up period.

Results: 394 patients, with Hp status correctly assigned at baseline (by ¹³C-Urea Breath Test), completed the study. The average number

Abstract 23, Table 1

Treatment Group	Relapse Rate %	p-values
Eradication	37.0 (47/127)	0.02
Lansoprazole (+ve)	51.4 (73/142)	0.22
Lansoprazole (-ve)	59.2 (74/125)	

of GI consultations and prescriptions was lower in the eradication group compared with the Hp +ve non-eradicated group ($p<0.02$ and $p=0.05$ respectively).

Conclusion: Hp eradication resulted in a significant reduction in symptomatic relapse in patients presenting with ulcer-like dyspepsia in primary care. This was associated with a reduction in the number of GI consultations and prescriptions over the subsequent 12 months.

024 HYPNOTHERAPY IS EFFECTIVE IN THE LONG-TERM TREATMENT OF FUNCTIONAL DYSPESIA

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We have shown hypnotherapy (HT) to be highly effective in the treatment of irritable bowel syndrome (IBS), with long term improvements in both symptoms and quality of life. The aim of this study was to assess the efficacy of HT in patients with functional dyspepsia (FD). 79 patients (aged 19 to 65 yrs; 38 male) satisfying Rome I criteria for FD were therefore enrolled into a randomised, controlled, parallel designed study in which they either received HT ($n=26$; aged 22 to 59 yrs, 12 male), conventional treatment of ranitidine 150mg twice daily (C) ($n=29$; aged 19 to 65 yrs; 15 males) or supportive therapy plus placebo tablet (S) ($n=24$, aged 21 to 63 yrs; 11 males) for 16 weeks. Symptomatology and quality of life were assessed using questionnaires (visual analogue) at the start and end of the 16 week treatment period (short term effect), and at 9 months follow-up (long-term effect). Although concomitant medication was not allowed during the treatment period, patients were allowed medication during the 9-month follow-up.

Results: Although there were similar improvements in total FD symptom score in the short-term (% improvement, median (IQR), HT: 59%(26–85)%, C (48%(31–64)%) and S (43%(33–67)%) ; long-term, HT improved total FD score significantly more (73%(26–96)%) than either C (43%(15–57)%; $p<0.01$) or S (34%(-24–71)%; $p<0.02$). HT also improved quality of life both in the short and long term (short term: 42%(31–69)%, long term 44%(24–69)%) more than either C (14%(6–35)%; $p<0.001$, 20%(10–26)%; $p<0.001$) or S (26%(5–66)%; $p=0.06$, 43%(9–60)%; $p<0.02$). Interestingly, during follow-up, 90% and 82% of patients who had received C and S respectively, restarted some form of medication, whilst none of the patients who had received HT restarted medication. The most common medication used were proton pump inhibitors and H₂ blockers (C: 52%, 28%, S: 28%, 36%, respectively).

Conclusion: HT is effective in the long-term management of FD. Furthermore, the dramatic reduction in the need for conventional medication provides major economic advantages. This study was supported by Wellcome Trust, UK.

025 IV PROTON PUMP INHIBITORS (PPI) WITH OR WITHOUT ENDOSCOPIC THERAPY PREVENT REBLEEDING AND SURGERY IN PATIENTS WITH PEPTIC ULCER HAEMORRHAGE (PUH)—A META-ANALYSIS OF RANDOMISED CONTROLLED TRIALS (RCTS)

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Acute PUH recurrence remains a common problem despite endoscopic therapy. High dose IV PPI can maintain intragastric pH > 6.0 required for clot-stabilization and hence may offer an effective therapeutic option.

Aim: To evaluate the effect of high dose IV-PPIs for the prevention of acute PUH using meta-analysis.

Methods: Recursive literature search of RCTs using IV-PPI for the management of acute PUH. Only PPI doses that have shown to maintain intragastric pH > 6.0 were included. IV H₂ blockers were considered comparable to, and hence combined with, placebo. RCTs were stratified according to prior endoscopic therapy. Calculation of relative and absolute risk reduction (RRR, ARR) and number needed to treat (NNT).

Results: 8 RCTs with, and 10 without, prior endoscopic therapy were included. 17 used omeprazole; 1 used pantoprazole. After endoscopic therapy, high dose IV-PPI significantly decreased acute re-bleeding (RRR = 42%; ARR = 9.2%, CI = 5.3–13.1; NNT = 11) and surgery (RRR = 46%; ARR = 4.4%, CI = 1.5–7.3; NNT = 23). In patients without endoscopic therapy, high dose IV-PPI significantly decreased acute re-bleeding (RRR = 36%; ARR = 6.5%, CI = 2.7–10.3; NNT = 15) but not surgery (RRR = 22%; ARR = 2.5%, CI = -0.4–5.3; NNT = 41). There was no significant reduction in mortality in either group.

Conclusions: High dose IV-PPI with or without endoscopic therapy prevents acute re-bleeding following PUH. Patients with PUH should be started on high dose IV-PPI on admission. Once haemodynamically stable, they should have endoscopy and, if needed, endoscopic therapy. Patient with high-risk endoscopic lesions should be continued on high dose IV-PPI for 72h while those at low risk lesion can be switched to standard dose PPI by mouth.

026 REBOUND MAXIMAL ACID HYPERSECRETION AFTER OMEPRAZOLE PERSISTS TO AT LEAST 11 MONTHS AFTER TREATMENT

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Introduction: We have previously reported that there is significant rebound maximal acid hypersecretion in *H. pylori* negative healthy subjects at 1 to 8 weeks after an 8 week course of omeprazole. However, it was unclear whether the phenomenon persisted beyond 8 weeks.

Aim: To determine the duration of rebound maximal acid hypersecretion after omeprazole.

Methods: 9 *H. pylori*-negative healthy subjects were studied with pentagastrin-stimulated maximal acid output (MAO) studies at 1, 2, 4, 6, 8 weeks and 11 months after an 8 week course of omeprazole 40mg/day.

Results: All values are means; all values after treatment are significantly elevated over that before treatment at $p < 0.004$.

Abstract 26, Table 1

	<i>Time after treatment</i>						
	<i>Pre-R_x</i>	<i>1 week</i>	<i>2 weeks</i>	<i>4 weeks</i>	<i>6 weeks</i>	<i>8 weeks</i>	<i>11 months</i>
MAO (mmol h ⁻¹)	29.0	38.6	43.8	42.1	36.8	36.3	33.7
%↑ in MAO	—	41.1%	58.7%	43.2%	30.0%	32.0%	19.6%

Discussion: The MAO is still significantly elevated at a median of 11 months after a 2 month course of omeprazole 40mg/day. This prolonged acid hypersecretion may have implications for withdrawal of treatment with this drug.

Conclusion: Significant rebound maximal acid hypersecretion after omeprazole persists until at least 11 months after treatment.

027 OESOPHAGITIS, A RISK FACTOR FOR OESOPHAGEAL CANCER

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Background: Barrett's oesophagus is regarded as being a risk factor for oesophageal adenocarcinoma. The presence of heartburn has recently been described as being a risk factor for oesophageal adenocarcinoma. No data currently exists to our knowledge on the risk of oesophageal adenocarcinoma in patients with oesophagitis.

Method: Using the Tayside endoscopy database, patients with a normal oesophagus and those with oesophagitis at their first endoscopy in the period 1975–1985. Those with Barrett's oesophagus were excluded. They were followed up to the end of 1995, using the Scottish Cancer Registry to identify those who had developed oesophageal carcinoma more than one year after their initial endoscopy.

Results: There were 14901 patients with a normal oesophagus and 3397 with oesophagitis. 49.5% of those with a normal oesophagus and 47.9% of those with oesophagitis were male ($p = 0.09$). Those with a normal oesophagus were younger than those with oesophagitis (50.4 v 52.7 years, $p < 0.0001$). The crude odds ratio for oesophageal carcinoma for those with oesophagitis as compared to those with a normal oesophagus was 3.02 (1.40–6.50, $p = 0.0031$). The age and sex adjusted odds ratio for oesophageal carcinoma for oesophagitis was 2.89 (1.34–6.25, $p = 0.0067$).

Conclusions: Patients with oesophagitis are at three times greater risk of developing oesophageal carcinoma than those with a normal oesophagus at endoscopy, more than one year after their initial endoscopy.

028 ONE YEAR FOLLOW-UP OF ARGON PLASMA COAGULATION (APC) ABLATION OF BARRETT'S EPITHELIUM (BE)

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Introduction: The aim of BE ablation is to reduce malignant potential which is related to BE extent. APC is effective for ablation but the long-term effects are unclear.

Aim: To assess the effects of APC therapy on BE ablation after 1 year.

Methods: Following APC therapy of BE (≥ 3 cm containing specialised intestinal metaplasia), patients were maintained on high dose proton pump inhibitor (PPI) therapy, (acid suppression documented by 24 hour oesophageal pH studies), and re-endoscoped after a mean of 13.7 months, range 12–19 months. BE extent was recorded and 2cm interval quadrant jumbo biopsies taken at the previous levels of original BE area to look for "buried" glands.

Results: 15 patients, mean age 56.1 years (range 29–79 years), previously treated with APC to achieve $\geq 90\%$ macroscopic BE clearance were followed-up. Their initial mean BE length was 4.7cm (range 3–7 cm) versus 1.5cm (range 0–4 cm) at 1 year. 7 patients had recurrent BE; in 4 this amounted to $\geq 50\%$ of the original area. 3 of these 4 had reduced their omeprazole dose from 20mg twice daily to 20mg once daily during follow-up. All other patients remained on high dose PPI. "Buried" BE glands were seen in 7 out of 144 (4.9%) biopsies at completion of APC and in 5 of 107 biopsies (4.7%) at follow-up in 5 patients. No dysplasia was seen.

Discussion: About half the BE patients had recurrent BE at follow-up after successful APC ablation. This was most marked in patients who had reduced their acid suppression dose. "Buried" BE persists over 1 year post APC therapy but the incidence is unchanged. Patients should not reduce PPI dosage after APC ablation of BE.

029 CLINICAL OUTCOME AND LONG-TERM SURVIVAL FOLLOWING RADICAL OESOPHAGECTOMY IN THE ELDERLY

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Background: Oesophagectomy is considered an especially high-risk procedure in elderly patients. The aim of this study was to compare the early clinical outcome and subsequent survival of patients aged 70 years or over with that of patients younger than 70 years.

Abstract 29, Table 1

	≥70 years	<70 years	Overall	p value
Complications	46%	44%	45%	NS
Pulmonary morbidity	14%	18%	17%	NS
Mediastinal leaks	4.8%	3.6%	4%	NS
Hospital mortality	6.4%	3.0%	4%	NS
Mean ITU stay	1.9 days	2.6 days	2.4 days	NS
Mean hospital stay	19.1 days	17.0 days	17.6 days	NS
Node positive*	68%	59%	62%	NS
Survival 1-year	73%	81%	79%	
3-year	33%	46%	42%	
5-year	28%	37%	35%	NS

*rare tumours excluded

Methods: From 1/4/90 to 1/6/00 228 patients (M:F ratio 3:1, median age 64, range 39–77) have undergone radical subtotal oesophagectomy for malignancy under the care of one surgeon. Prospectively compiled data on the clinico-pathological characteristics and survival rates of 63 patients ≥ 70 years were compared with 165 patients < 70 years.

Results: Both groups were comparable in terms of M:F ratio, history of cardio-respiratory disease and smoking. Tumour histological subtypes were adenocarcinoma (n=146) squamous cell carcinoma (n=75) and rare tumours (n=7) with an even distribution between both groups. Surgical approach and the resection techniques were the same in all patients. Early post-operative outcome data and survival rates are shown below.

Conclusions: With careful selection early clinical outcome and long-term survival following radical oesophagectomy are equivalent in both younger and older patient groups. Survival is dependent solely upon tumour stage such that advancing age alone should not be a reason for withholding surgery.

030 A NEW APPROACH TO THE TREATMENT OF INOPERABLE CARCINOMA OF THE OESOPHAGUS: LASER AND RADICAL CHEMORADIATION THERAPY

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Background: Most patients with oesophageal cancer are elderly and present with advanced local disease. Even when surgically fit, the MRC OE02 trial suggests that median survival is only 17 months in patients treated with neo-adjuvant chemotherapy. Dysphagia induces malnutrition, which can further worsen prognosis. Other approaches are urgently needed, particularly for those who are not surgical candidates. We present our initial experience using endoscopic relief of dysphagia followed by chemoradiation.

Methods: Fifteen patients (10 male), median age 71 (range 47–82), who were inoperable due to locally advanced oesophageal cancer were treated with endoscopic thermal laser therapy to relieve dysphagia followed by chemoradiation. Twelve had squamous cell histology and 3 adenocarcinoma that involved the gastric cardia. Mitomycin C and 5fluorouracil were administered during weeks one and four of external beam radiotherapy (median 60 Gy) which was given in divided daily doses over 6 weeks.

Results: After laser therapy and prior to commencing radiotherapy, 13 patients were able to tolerate semi-solids or a normal diet. The other 2 had endoscopic gastrostomies placed. Early radiation toxicity was mild, with severe oesophagitis seen in only 1 and worsening dysphagia in 1 other. Late toxicity includes bleeding from haemorrhagic gastritis in 1 patient with a cardia tumour which stopped on discontinuing aspirin, benign oesophageal stricture that responded to dilatation in 8 (45%) and mild pulmonary fibrosis in one. Median follow up is 17 months (range 4–88 months). Four patients have died (at 4, 8, 9, & 16 months). No differences are seen between squamous tumours and adenocarcinomas. Kaplan Meier analysis shows 86% survival at 6 months and 65% survival at 17 months. None of the 8 patients treated within the last 18 months has died.

Conclusions: This treatment approach appears to offer excellent results compared to conventional therapy with minimal toxicity even in an elderly population. The results need to be confirmed in a larger randomised trial.

031 WHAT HAPPENS TO ENDOSCOPIC ULTRASOUND (EUS) STAGE T4 OESOPHAGEAL CANCERS? A COMPARISON WITH STAGE T3 TUMOURS

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Aims: To assess the prognostic value of an endoscopic ultrasound (EUS) finding of locally advanced (T4) oesophageal carcinoma compared with a similar cohort with EUS staged T3 tumours.

Patients and Methods: A retrospective study of all oesophageal cancers staged as T4 at EUS over 3 years to September 1999 in South Wales UK (Cardiff & Neath). A control group of T3 tumours were selected by taking the next patient from the EUS log staged as T3 after each T4 Tumour. Other staging results, treatment, surgical histology and survival were collected from patients notes.

Results: 339 patients with oesophageal cancer underwent EUS during the study period. Fifty-one (15%) were EUS stage T4 (30M: 21F, mean age 60 years, range 42–80). The T3 control group of 51 patients was similar (33M: 18F, mean age 65, range 32–79). There was no difference in the two groups regarding tumour histology, nodal involvement (N1), tumour location, and coeliac node metastasis (M1a). The median length of follow up for all patients was 29 months (range, 8 to 44). Surgery had been performed in 12 (23%) patients in the T4 group compared to 28 (55%) patients in T3 group ($p=0.0023$). The T4 group treated surgically had slightly more post-operative complications compared to T3 patients (58% vs. 46%, $p=0.1$). For patients undergoing surgery postoperative 30 days hospital mortality was significantly higher in the T4 group compared with the T3 group (33% vs. 14%, $p=0.003$). Median survival for all T4 patients was 8 months compared with 14 months for T3 patients ($p=0.009$). There was no difference in median survival between T4 patients who underwent surgery and those who did not. In contrast median survival for T3 patients undergoing surgery was 20 months compared with 9 months for those who did not and this difference was statistically significant ($p=0.007$).

Conclusion: Oesophageal cancers staged T4 by endoscopic ultrasound have a very poor prognosis regardless of further therapy. Surgical resection in T4 tumours is associated with excessive morbidity and mortality without any survival advantage.

032 WHAT IS THE ROLE OF ENDOSCOPIC ULTRASOUND (EUS) FOLLOWING CHEMOTHERAPY FOR OESOPHAGAL CARCINOMA: ARE WE ASKING THE RIGHT QUESTIONS?

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Background: EUS is superior to CT for T/N staging of oesophageal tumours, however like all imaging modalities, its value following the use of neo-adjuvant chemotherapy is uncertain. The increasing use of chemotherapy highlights the importance of defining this role.

Aim: To determine the accuracy of EUS following chemotherapy with respect to identification of residual tumour, metastatic lymph nodes and the resectability of involved tissue.

Methods: EUS was performed under conscious sedation using Olympus GFUM20 and GFUM200 echoendoscopes. The accuracy of EUS for T/N staging of all cancers of the oesophagus and gastro-oesophageal junction was determined (n=135). Films on patients who had received neo-adjuvant chemotherapy (n=25) were reviewed in a blinded fashion for: presence of mass lesion; changes in residual mass echogenicity; restoration of wall layer pattern and presence of mitotic appearing nodes as assessed by standard criteria (size, shape, border and echogenicity).

Results: One-hundred and thirty five patients were assessed by EUS, with 41 of these undergoing surgery. Accuracy of T-staging was 89% with N-staging specificity and sensitivity being 94% and 71% respectively. A further 25 cases (M:19/F:6; Age 37yrs.to 78yrs, median 65yrs.) were assessed by EUS before and after chemotherapy; of these 18 underwent surgery. The specificity and sensitivity for predicting the presence of tumour was 100% and 50% respectively, based on wall thickening or full restoration of wall layers. The accuracy of predicting resectability (i.e. <T4) was 84%. EUS was poor at predicting N-status (specificity: 57%; sensitivity: 17%).

Conclusion: No imaging modality consistently predicts the persistence of viable tumour following neo-adjuvant chemotherapy. Consequently, the questions asked of imaging should be (a) is there a high likelihood of residual tumour? and (b) is this resectable? Endoscopic ultrasound provides accurate answers to both these questions. EUS should form part of the pre-operative assessment for oesophageal cancer following neo-adjuvant chemotherapy.

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033 DO GASTRIC “ULCER-CANCERS” PRESENT DIFFERENTLY TO “MASS-CANCERS”?

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Aims: The aim of this retrospective study is to identify whether there is a difference in the pattern of presentation of “ulcer-cancers” and “mass-cancers” and so identify any potential to improve the detection of gastric cancer at an early stage.

Methods: All upper GI adenocarcinomas diagnosed in South Tees Health District (population ~ 350,000) were identified from the computerised pathology database (for the period April 1991– January 2000). The pathology records and GP records were then scrutinised and the data recorded and analysed using EpiInfo.

Results: The total number of patients identified was 618; to date 102 patients’ notes have been analysed. 94% were adenocarcinoma of which 26% were oesophageal and 74% were gastric. 6% were squamous carcinoma (mis-coded on the pathology computer). The M:F ratio was 63.5:36.5 and the mean age was 70.2 years (range 43–91). For these the nature of diagnostic investigation was 98% OGD (routine list 69.8%, emergency 17.7%, open access 12.5%) and 2% laparotomy. The naked eye appearance at diagnostic OGD was ulcer in 49%, mass in 29%, stricture in 18%, mucosal abnormality in 2% and other in 2%. Of the “cancer-masses” (n=28) 10 were treated with acid suppressing medication (AST) compared with the “cancer-ulcers” (n=47) where 34 were given treatment (p=0.002). The mean time to diagnosis for the “cancer-masses” given AST was 9.9 weeks (range 0–26); if no AST had been prescribed it was 7.4 (range 0–45). For the “cancer-ulcers” given AST this time was 18.7 weeks (range 3–107) and if AST had not been prescribed it was 8 (range 0–26). Overall the mean time from 1st GP consultation to diagnosis for “mass-cancer” was 8.2 weeks (median 6, range 0–45) whereas for “ulcer-cancers” it was 15.7 weeks (median 10, range 0–107) (p=0.028 Kruskal-Wallis analysis). Of the 28 “mass-cancers” 4 (14%) had had a gastroscopy within 3 years of the diagnostic scope whereas of the 47 “ulcer-cancers” 15 (32%) had had previous investigations (p=0.09).

Conclusion: The early results suggest that “ulcer-cancers” receive more treatment (up to 2 years) and are more likely to have had a gastroscopy within 3 years of the diagnostic investigation at which the cancer was diagnosed. There is therefore more potential to diagnose “ulcer-cancers” earlier by avoiding AST prescription and performing gastroscopy earlier.

034 INTERCOLLEGIATE NATIONAL-BSG COLONOSCOPY (IBNC) AUDIT: IDENTIFICATION AND MANAGEMENT OF POLYPS DIAGNOSED AT COLONOSCOPY

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Introduction: Colonoscopy is acknowledged as the gold standard for examining the colon. The goal of colon cancer prevention is interrupting the adenoma-carcinoma sequence and effective management of polyps requires complete colonoscopy with complete polyp removal, retrieval and histological assessment to enable appropriate follow up. As part of the IBNC prospective audit of 8902 colonoscopies, the prevalence and management of polyps was assessed.

Results: Polyps were diagnosed in 2014/8902 (22.6%) of the colonoscopies. Polyps were the sole diagnosis in 1309/8902 (14.7%) of colonoscopies. In 84/8902 (0.9 %) colonoscopies, polyps were reported in the presence of obvious cancer, and in 621/8902 (7.0%) polyps occurred in the setting of other disorders. The caecum was successfully intubated in 1670/2014 (82.9%) colonoscopies where polyps were reported and in 54/84 (64.3%) colonoscopies where polyps were associated with cancer. No answer regarding intervention was given in 59/2014 (2.9%) of colonoscopies. Where polyps were reported, there was no attempt at polypectomy in 126/2014 (6.3%). All polyps were judged completely removed in 1401/2014 (69.6%) colonoscopies and incomplete removal was recorded in 331/2014 (16.4%). In 1239/2014 (61.5%) of cases information on polyp retrieval was not answered. Retrieval of all polyps was reported in 465/2014 (23.1%) of colonoscopies where polyps were discovered and incomplete retrieval was recorded in 310/2014 (15.4%).

Conclusion: Currently, colonoscopy is incomplete in almost 1:5 patients with polyps and it is likely that a significant number of proximal polyps remain undetected. A small but significant number of polyps are either left in situ or only partly removed, and retrieval is often incomplete. It is likely that improved performance will require a program of intensive training and repeated audit cycles.

035 A PROSPECTIVE AUDIT OF COLONOSCOPY IN A LARGE DGH—FACTORS EFFECTING CAECAL INTUBATION RATES

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Background: JAG guidelines state that colonoscopists need to have a caecal intubation rate in excess of 90% to be qualified to train but does not state if this success rate based on an intention to treat (ITT) or per protocol (PP) analysis. In a previous audit (Gut 2000;46 (suppl II) A15) our hospital’s overall caecal or surgical anastomosis intubation rate (COSAIR) was only 67% (ITT). We therefore carried out a further more detailed prospective 5 month audit to try to identify factors effecting COSAIR (analysed both on an ITT and PP basis). Endoscopists graded reaching the caecum as 1) essential 2) desirable or 3) optional.

Results: 5 consultant surgeons and 3 medical gastroenterologists plus their junior staff including 4 SpRs (3 surgical and one medical) carried out a total of 534 colonoscopies. In the 67 patients who had had a previous colonic resection the COSAIR was 66/67 or 98.5% while in those with an intact colon the success rate was 388/467 or 83.1%. Our overall COSAIR [ITT] was 454/534 or 85.1%. The PP figures were significantly better than ITT (p=0.008) with 4 instead of 2 consultants achieving a >90% COSAIR. The failure rates for females (54/274) was significantly greater (p=0.0025) than men (26/260). Furthermore, in women, the COSAIR with the stiffer Pentax Shinya colonoscope (57/91) was significantly lower (p=0.0043) than with floppier Olympus endoscopes (109/129). COSAIR was significantly (p<0.001) influenced by perceived desirability to reach the caecum: with success rates of 93%, 86% and 45% respectively in the essential, desirable and optional groups.

Conclusion: JAG recommendations on colonoscopy should clearly state if the “being able to reach the caecum in over 90%” is a) assessed on a PP or ITT basis b) includes patients with colonic resection and c) takes into account the perceived need to reach the caecum.

036 INTERCOLLEGIATE-BSG NATIONAL COLONOSCOPY (IBNC) AUDIT: METHODS USED TO IDENTIFY THE CAECUM AND CAECAL INTUBATION RATE

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Introduction: Colonoscopy is acknowledged as the gold standard for examining the colon. A caecal intubation rate of 90% is the recommended target for practising colonoscopists. As part of the IBNC audit caecal intubation rate was recorded in 8902 colonoscopies. In addition, commonly used method(s) for identifying the caecum were recorded (transillumination, tri-radiate fold, appendiceal orifice, ileo-caecal valve, terminal ileum intubation, finger indentation of right