Ultrasonographic findings in Crohn's disease

EDITOR,—We read with interest the paper by Gasche et al (Gut 1999;44:112–117) on the accuracy of transabdominal ultrasound in the detection of complications in Crohn's disease. The authors evaluated 33 patients with Crohn's disease who had resective bowel surgery. The results were impressive: 87% sensitivity with 90% specificity in the diagnosis of enter-enteric fistulas; 100% sensitivity with 92% specificity in the diagnosis of intra-abdominal abscesses; and 100% sensitivity with 91% specificity in the diagnosis of strictures. However, these data are in contrast to those reported by transabdominal ultrasound and colleagues who found very low sensitivity (50%) and 95.5% specificity in ultrasound detection of entero-enteric fistulas.

The difference in levels of sensitivity in these studies could be explained by the use of different standards and also, in our opinion, by varying definitions of fistulas. Gasche and colleagues considered fistulas to be any hyperechoic peri-intestinal lesion measuring less than 2 cm. However, although this arbitrary cut-off point may be useful to differentiate between fistulas and abscesses, it does not allow for precise differentiation between fistulas and strictures, for which we usually adopt a cut-off criterion of a diameter of less than 1 cm.

Strictures and abscesses are often considered to be more easily detectable by ultrasound than fistulas, but contrasting data exist even on this point. Gasche et al found 100% sensitivity for intra-abdominal abscesses, whereas in contrast Maconi et al found an overall sensitivity of 83.3%, with only 66.6% for intra-abdominal strictures. Schwerk and colleagues who used 9 mm as diametrically smaller than 5 mm as pathological, whereas Maconi and Schwerk considered wall thickening of 4 mm or more to be abnormal. Hata and colleagues 5 reported that the mean overall wall thickness of normal bowel specimens was 2.8 mm and that no normal specimens exceeded 4 mm in thickness. More recently, another study by Solvig, Van Oostayen, and even Gasche defined bowel wall thickening of 3 mm or more as pathological. 6

Previously, we considered 4 mm to be the pathological value of bowel wall thickness in patients with inflammatory bowel disease, but we have now reduced this value to 3 mm or more, having excluded patients with eosinophilic enteropathy or portal hypertension, in which bowel wall thickness is due to an oedematous mattedness. Recently, we conducted a prospective study (unpublished data) in which bowel wall thickness was shown to have a prognostic value. We found that patients with Crohn's disease with a bowel wall thickness greater than 6 mm, who are in clinical remission, showed a significantly higher relapse rate (90%) in the subsequent 18 months compared with patients with bowel wall thickness of less than 6 mm (40%).

In conclusion, the diagnostic accuracy of transabdominal ultrasound has improved progressively as more data are found in the literature are due principally to the introduction of new technologies, the level of experience of the operators, and the growing interest in the application of ultrasound to the study of the digestive tract.

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Table 1 Dietary fibre intake and adenocarcinoma of the oesophagus and gastric cardia

<table>
<thead>
<tr>
<th>Reference</th>
<th>Country</th>
<th>Sites</th>
<th>Comparison</th>
<th>Odds ratio</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>USA</td>
<td>OGC</td>
<td>Highest of lowest quartile</td>
<td>0.3</td>
<td>0.1 to 0.7</td>
</tr>
<tr>
<td>2</td>
<td>USA</td>
<td>OGC</td>
<td>Highest of lowest quartile</td>
<td>0.3</td>
<td>0.1 to 0.8</td>
</tr>
<tr>
<td>3</td>
<td>USA</td>
<td>O</td>
<td>Highest of lowest quartile</td>
<td>0.4*</td>
<td>Not stated</td>
</tr>
<tr>
<td>4</td>
<td>Greece</td>
<td>O</td>
<td>Marginal quintile</td>
<td>0.74</td>
<td>0.55 to 0.99</td>
</tr>
</tbody>
</table>

Odds ratios adjusted for alcohol and tobacco use.

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Association between colon cancer and adenocarcinoma of the oesophagus

EDITOR,—Recently, Lagergren and Nyrén (Gut 1999;44:819–821) concluded that results from a population-based cohort study in Sweden did not support a common link between colon cancer and oesophageal adenocarcinoma. However, there is consistent evidence that low intake of dietary fibre is associated with both diseases. In an analysis of 13 case control studies involving more than 5000 colorectal cancer cases, Howe and colleagues reported an inverse association between fibre intake and colorectal cancer in 12 of the 13 studies, and an odds ratio of 0.53 (95% confidence interval 0.47 to 0.61) for the highest quintile of fibre intake compared with the lowest, a result supported by recent analysis. 7 Similarly, four case control studies have reported a significant inverse association between fibre intake and adenocarcinoma of the oesophagus and gastric cardia (table 1). 8

In contrast, two studies which included cases of squamous cell carcinoma found no significant link between fibre intake and squamous cell carcinoma of the oesophagus. 9,10

Clearly, the dramatic increase in the incidence of adenocarcinoma of the oesophagus in the USA and parts of Europe over past decades cannot be explained by secular trends in dietary fibre consumption. A more plausible explanation links increased rates of colorectal cancer to increases in the prevalence of obesity. 11 This view is supported by evidence from observational studies that suggests that both overweight and symptomatic gastro-oesophageal reflux are linked to increased risk of oesophageal adenocarcinoma. 12 Possible mechanisms for the observed protective effect of dietary fibre include the mechanical cleaning effect of the lower oesophageal mucosa, increased motility of potential carcinogens across the gastro-oesophageal junc-

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LETTERS TO THE EDITOR

Association between colon cancer and adenocarcinoma of the oesophagus

EDITOR,—We thank Dr Arienti and colleagues for their attention to our work. It is correct that improved technology and operator experience alone do not explain our better results. Indeed, the high accuracy of transabdominal bowel sonography in our study is based principally on the use of revised definitions for the detection of intestinal complications. It is, therefore, a pleasure to have consensus on these definitions.

Despite some unresolved issues, many (mostly European) investigators have shown the value of bowel sonography in patients with Crohn's disease. The time is ripe to offer the benefits of this imaging method to patients with Crohn's disease worldwide.

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The lack of a significant link between colorectal cancer and oesophageal cancer in the Lagergren and Nyren study is not surprising, as the average year of entry to the cohort study was 1977 and median follow up was 2.1 years. Thus, a substantial proportion of the accumulated person years relates to a time period when the Swedish population was at a very low risk of developing oesophageal adenocarcinoma after a diagnosis of colon cancer remains small, because of the late onset of colon cancer. Furthermore, case control studies are likely to continue to be the most efficient type of observational study design for the investigation of possible common links between these two diseases.

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Reply

EDITOR,—The influence of dietary fibre on the risk of adenocarcinoma of the oesophagus and gastric cardia is certainly interesting, but further and larger studies are needed before a link between the two can be confirmed. Although several case control studies have reported a correlation between colon cancer and fibre intake, others have failed to identify such a link.1 Hence, the suggested link between fibre intake and both colon cancer and oesophageal cancer is debatable.

We agree that changes in dietary fibre consumption cannot explain the increasing incidence of oesophageal adenocarcinoma. The increasing prevalence of obesity is a possible reason for this rise, but some seemingly incongruent observations need to be reconciled before this hypothesis can be verified.2 The apparently sudden deflection of the incidence curve for oesophageal adenocarcinoma,1 the rapidity of the increase,1 and the noticeable (6–8 fold) increase in prevalence do not entirely support this interpretation.

The primary hypothesis of our population based cohort study was not that colon cancer would subsequently develop into oesophageal cancer, but rather that there might be a common underlying link between the occurrence to these two tumours, independent of the time latency between their development. Hence, the individual follow up latency after colon cancer diagnosis was of minor importance. Therefore, it would seem reasonable to associate the risk of exposure to the critical underlying factor— for example, insufficient dietary intake of fibre, and the development of oesophageal or colonic adenocarcinoma. Therefore, as long as selection or ascertainment biases are deemed to be small, the time period that follows immediately after diagnosis of colon cancer is the most informative. The total number of person years was more critical, and we were able to follow up more than 500 000 person years in our study. The rarity of oesophageal adenocarcinoma is a problem in any study of the aetiology of this tumour in any country, particularly if the studied exposure is relatively weak. This problem explains our limited power to exclude a weak association. Nevertheless, we were able to identify more than 100 000 people with verified colon cancer and to follow them for subsequent cancer. Adenocarcinoma is a substantial number of exposed people. We agree that case control studies are generally more efficient than cohort studies when rare outcomes are to be investigated. However, in the case of our register based retrospective cohort study, a case control approach would not entail any advantage, as our cohort contained all individuals exposed to colon cancer in Sweden during 1958 and 1992, and all individuals among them who developed oesophageal adenocarcinoma during the same period. A case control study conducted in Sweden during this period would, at best, include the same number of exposed oesophageal adenocarcinoma cases as in our cohort study. Thus, the problem with low statistical power is not owing to study design, but that the study base (all residents of Sweden 1958–1992) was too small to generate a sufficient number of individuals with the combination of colon cancer and oesophageal adenocarcinoma. J LAGERGREN
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Divergence colitis as a trigger for ulcerative colitis

EDITOR,—Lim and colleagues recently presented three cases of diversion colitis which seemed to act as a trigger for intransm ulcerative colitis (Gut 1999;44:279–282). We would like to present a fourth case which has recently come to our attention and which adds to the literature.

In 1994, a 75 year old woman presented with a five year history of faecal soiling and urinary incontinence. A former smoker of 50 years, the patient had had a traumatic forceps delivery and episiotomy when she was 31 years old. Her mother had died at an early age of unspecified colitis. Rigid sigmoidoscopy and barium enema were normal, but anorectal ultrasound showed defects of the internal and external sphincters. Anterolateral repair of the anal sphincter did not control the symptoms and in September 1997 an end colostomy was performed for her disabling faecal incontinence.

In July 1998, the patient presented with blood and mucus per rectum, and an anterior mucosal prolapse was diagnosed and repaired. However, her symptoms persisted and in October 1998 flexible sigmoidoscopy showed a granular, congested, and oedematous mucosa with contact bleeding throughout the rectosigmoid region. Histology showed a mixed inflammatory cell infiltrate with distortion of the crypt architecture and cryptitis, and a diagnosis of diversion colitis was made; the rectal symptoms responded quickly to topical steroids.

Four months later, the patient developed increased stoma frequency and bleeding into the stoma bag. Colonoscopic examination of the intransm colon, via the colostomy, revealed an active distal colitis with a granular, oedematous, congested, and friable mucosa. Histology showed a mixed inflammatory cell infiltrate in the lamina propria with cryptitis, crypt abscess formation, and a reduction in the number of goblet cells. Ulcerative colitis was diagnosed and treated with oral mesalazine and topical steroid enema per stoma. Symptoms quickly improved and there has been no further bleeding from the rectum or stoma.

Although the histological features of ulcerative colitis and diversion colitis are indistinguishable, the clinical history in this case suggests that ulcerative colitis developed after true diversion colitis. It is possible that this patient’s colitic process represented an idiopathic ulcerative colitis, but it seems much more likely that the colostomy with faecal diversion was the initiating factor and that, as speculated in the cases studied by Lim and colleagues, diversion colitis is a risk factor for ulcerative colitis. Hypotheses on the pathogenesis of both diversion colitis and ulcerative colitis should take into account cases such as these.

Quality of life of parents of children on home parenteral nutrition

EDITOR,—Jeppesen and colleagues (Gut 1999;44:844–852) used the non-disease specific sickness impact profile (SIP) and the disease specific inflammatory bowel disease questionnaire (IBDQ) to assess the quality of life of 49 patients receiving home parenteral nutrition (HPN). They found a significant reduction in the quality of life of these patients compared with patients with anastomotic or functional short bowel not receiving HPN.


...
We showed recently that having a child on HPN has a major impact on the quality of life of the parents. We studied 11 parents of children with chronic intestinal failure requiring HPN. Following an initial focus group meeting to identify important issues, semi-structured interviews were held with the parents. The General Health Questionnaire (GHQ-28) and a questionnaire developed for the British Artificial Nutrition Survey (BANS) were also administered. A control group of 11 parents with age matched healthy children also answered the BANS questionnaire.

The GHQ-28 showed that seven of the 11 parents with children on HPN exceeded the threshold for psychiatric morbidity. The BANS described a significant deterioration before and after the child’s illness for social life (p < 0.007), family life (p < 0.007), sex life (p < 0.003), and work (p < 0.004) in these parents compared with controls. Parents caring for children on HPN were also more likely to be physically tired and to have difficulties in taking holidays, going shopping and spending time with their partners. Many of them admitted to feeling frustrated, annoyed, stressed, and having problems sleeping.

With the advent of HPN, increasing numbers of children with chronic intestinal failure are now being managed at home. Although HPN has given life to many of these children, it has also been associated with a number of complications. The quality of life of children on HPN are more likely to have difficulties in taking holidays, going shopping and spending time with their partners. Many of them admitted to feeling frustrated, annoyed, stressed, and having problems sleeping.


NOTES
11th Annual International Colorectal Disease Symposium
The 11th Annual International Colorectal Disease Symposium will be held at the Marriott Harbor Beach Resort, Fort Lauderdale, Florida, USA, on 17–19 February 2000. Further information from: Cleveland Clinic Florida, Department of Continuing Education, 2950 West Cypress Creek Road, Fort Lauderdale, Florida 33309, USA. Tel: +1 954 978 5056; fax: +1 954 978 5539; email: jagelms@ccf.org

5th World Congress on Trauma, Shock, Inflammation, and Sepsis
The 5th World Congress on Trauma, Shock, Inflammation, and Sepsis will be held in Munich, Germany, from 29 February to 4 March 2000. Further information from: Prof Eugen Faist, Department of Surgery, Ludwig Maximilians University Munich, Klinikum Grosshadern, Marchionistrasse 15, 81377 Munich, Germany. Tel: +49 89 7095 5461/2461; fax: +49 89 7095 5462; email: faist@g.chem.muni-muenchen.de

International Hepato-Pancreato-Biliary Association 4th World Congress
The International Hepato-Pancreato-Biliary Association 4th World Congress will be held in Brisbane, Australia, from 28 May to 1 June 2000. Further information from: Intermedia Convention and Event Management, PO Box 1280 (Intermedia House, 11/97 Castlemaire Street), Milton, Queensland 4064, Australia. Tel: +61 (07) 3369 0477; fax: +61 (07) 3369 5152; email: hpb2000@im.com.au