Figure 1 Flow chart of patients by hepatitis B e-antigen (HBeAg) status, alanine aminotransferase (ALT) level and serum hepatitis B virus (HBV) DNA level.

Table 1 Characteristics of different determinants for selection for referral

	Determinant for selection for referral (% and 95% CI)		
	HBeAg+ or ALT+	HBeAg+	ALT+ in HBeAg-
Prevalence of determinant	43 (38 to 48)	15 (12 to 19)	33 (28 to 38)
Positive predictive value*	45 (38 to 53)	88 (78 to 94)	22 (15 to 30)
Negative predictive value†	95 (91 to 97)	90 (86 to 92)	95 (91 to 97)
Sensitivity‡	87 (80 to 93)	61 (51 to 70)	68 (51 to 80)
Specificity§	70 (64 to 74)	98 (95 to 99)	71 (66 to 76)

ALT, alanine aminotransferase; HBeAg, hepatitis B e-antigen; -, negative; +, positive.

*Proportion of patients selected for referral who had high viral loads.

†Proportion of patients not selected for referral who had low viral loads.

‡Proportion of patients with high viral loads who were selected for referral.

§Proportion of patients with low viral loads who were not selected for referral.

with high serum HBV DNA, which corresponded to a sensitivity of 87%. When only patients with a positive HBeAg test were referred, the number eligible for referral could be reduced to the 15% of patients who were HBeAg positive. However, although the predictive value of a positive HBeAg test was high at 88%, the sensitivity was unacceptably low, and almost 40% of patients with a high viral load would have been missed. The sensitivity of an increased ALT level in patients who were HBeAg negative was also low at 68%, but the combination of both test results in the guideline improved the sensitivity to an acceptable 87%.

Of 12 patients with high viral loads who were not selected for referral by the guideline, 11 had a viral load of 10^5 – 10^6 copies/ml. We checked whether these patients had, in one way or another, been seen by a specialist at the Department of Gastroenterology and Hepatology of Erasmus Medical Center, Rotterdam, The Netherlands, which was the case for three of them. All three were referred back to their general practitioner after exclusion of significant liver disease. Another patient had an extremely high viral load of 2×10^{10} copies/ml. He was a 65-year-old Dutch man who was tested because of dialysis, and was already under the care of a specialist.

We conclude that a guideline based on HBeAg and a single ALT determination can successfully predict viral load in patients with chronic HBV and can be used in primary care to select patients for referral to specialist care.

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Delayed healing of percutaneous endoscopic gastrostomy site during chemotherapy

Many patients with head and neck cancer experience altered deglutition, weight loss and malnutrition as a consequence of their disease. Surgery, radiotherapy and chemotherapy frequently compound these problems. The use of percutaneous endoscopic gastrostomy (PEG) for nutritional support has been found to be effective, acceptable to patients and has a low rate of complications. We describe two cases of delayed healing and peristomal leakage in patients whose PEG was inserted during chemotherapy.

Case 1

A 59-year-old man with a T3N1M0 laryngeal carcinoma began weekly cisplatin chemotherapy and radiotherapy 2 weeks before insertion of a 9 Fr Freka PEG. There was no initial complication and the patient received his third dose of chemotherapy the next day. One week later, he presented with significant peristomal leakage of gastric juices and feeding liquid such that it had become necessary to change both his shirt and underpants frequently. There was redness of the surrounding skin extending below the umbilicus. He received a fourth dose of cisplatin as planned the next day. After review by the gastrointestinal team, the PEG was tightened at the external fixation plate in an attempt to improve the seal formed by the internal bumper on the anterior gastric wall and between the gastric and abdominal walls, and the site was kept clean and lightly dressed. Swabs grew mixed coliforms thought to be skin contaminants. No clinical or laboratory evidence of infection or peritonitis was seen. He was fed continuously through the PEG at a low rate and was given omeprazole intravenously to reduce the caustic effect of gastric juice on the skin. Leakage diminished after 2 days on this management and ceased after 5 days. The fifth dose of chemotherapy was postponed for 1 week. There was no further problem.

Case 2

Chemotherapy was started on the day of PEG insertion. The course was similar to case 1. The patient died a year later. The widow refuses consent to publish any further details, and it is the policy of *Gut* not to publish patient details without consent.

In over 500 PEG insertions for various indications, mainly neurological, we have not encountered any other case of peristomal leakage. Peristomal leakage was reported in 2 of 314 patients in a consecutive series of patients requiring a PEG for a range of indications,¹ and in 2 of 103 patients with head and neck cancer.² In the latter study, it is not clear whether these patients were receiving chemotherapy at the time. This recognised but infrequent complication resulted in significant morbidity in both our patients, and delayed chemotherapy in one. Animal experiments suggest that antineoplastic agents delay healing. Intestinal healing in rats was impaired most when surgery was performed in the middle of a course of cisplatin, bleomycin and 5-fluorouracil therapy.³ Chemotherapy given 7 days after surgery had no effect on healing. Wound strength is reduced by the inhibition of collagen synthetic capacity by fibroblasts. Interestingly, 5-fluorouracil had no effect on collagen synthesis.⁴ Although we have not proved a causative association, it is plausible and also suspicious that our only two such leaks occurred during chemotherapy. For clarification, we encourage the reporting of other cases. In the meantime, we recommend that PEGs are inserted at least a week before chemotherapy.

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Eosinophilic oesophagitis and coeliac disease: is it just a casual association?

Eosinophilic oesophagitis (EO) is the leading cause of dysphagia in children.¹ Long underestimated in the past, it is today being reported with increasing frequency. Acute and chronic dysphagia and food impaction are the typical symptoms in both children and young adults,

Figure 1 Endoscopic and histological aspects of the oesophagus of patient 1 (7-year old boy) before the gluten-free diet. The arrow indicates the eosinophilic infiltrate.

whereas vomiting and refusal of food may be more frequent in infants.^{1,2} Diagnosis of EE is mainly based on the eosinophilic infiltration of the oesophageal mucosa (>20 eosinophils/high power field (HPF)) in association with some classic endoscopic features (adherent whitish plaques, oesophageal concentric rings, linear furrowing). The aetiology of EE is far from clear, but in about half of the cases reported it is associated with an allergy either to food or to aeroallergens.^{1,3}

We describe three cases of EE, that we diagnosed by chance when performing endoscopy for the duodenal biopsy to confirm coeliac disease (CD). One case was diagnosed at the Institute of Child Health, IRCSS Burlo Garofolo, Trieste Italy, and, two at the Surgical and Endoscopic Digestive Unit of Ospedale Pediatrico Bambino Gesù, Rome, Italy.

Case 1

A 7-year-old boy was referred to the Gastroenterology Department, IRCSS Burlo Garofolo, Trieste, Italy with persistent sideropaenic anaemia since the age of 4-years. Given the unresponsiveness of his anaemia to iron supplementation, CD was suspected and confirmed by the positivity of antiendomysial serum antibodies (EMAs) and antitransglutaminase antibodies (tTG immunoglobulin (Ig) A 213 IU). The boy was allergic to dust mite, cat epithelium and betulaceae. His most common allergic manifestations included rhinitis and asthma. He was referred to our institute to confirm the diagnosis of CD. Endoscopy

showed small white adherent plaques in the proximal tract of the oesophagus and haemorrhagic duodenitis with mucosal scalloping. Histopathological features of the duodenal biopsy were typical of CD (Marsch 3c atrophy). Histopathological examination of the oesophagus showed a large amount of eosinophilic cell infiltrate (>20 /HPF) in the epithelium. CD was therefore confirmed and a gluten-free diet was started. No specific treatment was given for EE. After 6 months of gluten-free diet we reassessed the child. Laboratory tests showed unvaried haemoglobin and ferritin levels with higher minimum condensed volume, an eosinophilic count of 500/ μ l, lowered tTG IgA (44 IU) and high total IgE (271 IU/ml, normal range 0–52). Endoscopy was repeated, which showed no signs of duodenal inflammation and a marked reduction in the number and size of white plaques. Oesophageal biopsy specimens showed few eosinophils (<5 /HPF). Figures 1 and 2 show the endoscopic and histological aspects of the oesophagus before and after the gluten-free diet, respectively.

Case 2

A 17-year-old asymptomatic sister of a girl with CD, underwent endoscopy to perform duodenal biopsy. Hence she tested positive for EMAs and tTG, duodenal biopsy confirmed the diagnosis of CD (Marsch 3a atrophy). However, endoscopy showed vascular congestion in the proximal and middle oesophageal mucosa, with bleeding at contact with the instrument, and white linear plaques. Histological exam-

Figure 2 Endoscopic and histological aspects of the oesophagus of patient 1 (7-year old boy) after the gluten-free diet.