In conclusion, the value of clinical ultrasound is widely underestimated both by clinicians, family practitioners, and radiologists as well. Clinical ultrasound deserves a more widespread use than in departments of radiology alone because of its beneficial effects on patient care, the ease, speed, and safety of decision making and its capability for conserving scarce financial and manpower resources.

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Reply

EDITOR,—Professor Greiner is right to extol the virtues and simplicity of sonography as a first line imaging investigation in patients with gastrointestinal and abdominal disease and he is equally correct to point out that these values are not universally appreciated. In many countries, particularly the USA, sonography is less widely used, with the consequence that comparatively costly investigations such as endoscopy and magnetic resonance imaging or those involving ionising radiation, such as computed tomography are more liberally used in preference. In the UK however, gastroenterologists and surgeons appreciate the benefits of simple sonography and already understand most of the issues.

There are four questions of practical importance raised by Professor Greiner's letter. Who should do ultrasound? What are the costs? Is the Volkswagen as good as the Rolls Royce, and what training is necessary?

Many radiologists would disagree with me, but I do not feel that it matters who undertakes sonography, as long as they are properly trained and continue to learn by a process of audit and CME activity.

Costs are difficult to evaluate precisely, but the capital and revenue implications of a larger number of less frequently used ultrasound machines, are probably greater than those for a smaller number of centrally available, but heavily used machines. This is particularly so in view of the comparatively short life of an ultrasound machine, consequent upon rapidly advancing ultrasound technology. Most British hospitals tend to run a central endoscopy unit, used by physicians, surgeons, radiologists, and general practitioners, appreciating that a fragmented service is more costly. This is no less likely to be so for ultrasound than it is for endoscopy.

I cannot agree with Professor Greiner that the cheaper Volkswagen machine is as effective as the Rolls Royce machine. There are no hard data on this and a true comparison would have to take into account the cost of missed diagnoses and misdiagnoses that occur as a consequence of the equipment alone. Certainly radiologists appreciate that the sophisticated high specification machines give greater versatility and confidence to the examiner. Perhaps the real analogy between the Volkswagen and the Rolls Royce is not to ask which gets from A to B better, but to ask which you would rather have around you in difficult circumstances when there is the potential for danger or disaster.

Finally, Professor Greiner does not tackle the requirements for training at all. How do we define training for non-radiologists undertaking sonography? How do they know they are adequately trained and more importantly, how does the patient know that

they are adequately trained? Just as in endoscopy, the patient may well not be interested in whether the examiner is a physician, surgeon, nurse, sonographer, radiologist or general practitioner, as long as the examiner is properly trained and provides a safe, accurate service. Again, just as with endoscopy, I believe that it is the provision of acceptable training guidelines, which is the most crucial aspect of this debate and which will dictate the quality of ultrasound services.

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Diverticular disease

EDITOR,—The aetiology of non-infectious colitis may be difficult to ascertain as mucosal biopsy specimens do not consistently demonstrate diagnostic features.^{1,2} Shepherd provided a timely and comprehensive review of such inflammatory changes associated with diverticular disease (*Gut* 1996; 38: 801–2), highlighting the diversity of the inflammatory processes and providing an insight into the pathogenesis of ulcerative colitis. However in our experience diverticular disease presenting as a chronic continuous colitis is unusual.

We recently reviewed the case notes of all patients with a histological diagnosis of chronic non-specific proctocolitis made between 1985 and 1990 at our hospital. Of the 42 patients initially diagnosed 14 were subsequently shown to have ulcerative colitis. Twenty one patients had non-specific proctocolitis on repeat biopsies and the colitis in these patients, who were predominantly young women (18 women mean age 43), ran a prolonged (average five years) but mild course. Only continuous colitis was observed. Just two patients with colitis had concomitant diverticular disease and, in contrast with other studies,³ neither rectal sparing nor progression to ulcerative colitis was observed. The remaining patients had clinically distinct diagnoses such as radiation colitis.

We conclude that although diverticular disease associated colitis is a recognised entity, in our clinical practice its occurrence is rare constituting just two cases over a five year period. We accept that some diagnoses of ulcerative colitis or Crohn's colitis may be incorrect, none the less the association with diverticular disease appears unusual. Our finding that persistent non-specific proctocolitis predominated in women of reproductive age may suggest a distinct disease and warrants further investigation. However our report is limited to both sample size and duration of follow up; these deficiencies are currently being addressed.

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- 1 Nottegham B, Salomez JL, Gower-Rousseau C, Marti R, Lemahieu M, Nuttens MC, *et al.* What is the prognosis in unclassified colitis? Results of a cohort study of 104 patients in the Northern-Pas-de-Calais Region. *Gastroenterol Clin Biol* 1993; 17: 811–5.
- 2 Le Berre N, Heresbach D, Kerbaol M, Culet S, Bretagne JF, Chaperon J, *et al.* Histological discrimination of idiopathic inflammatory bowel disease from other types of colitis. *J Clin Pathol* 1995; 48: 749–53.

- 3 Makapugay LM, Dean PJ. Diverticular-disease associated chronic colitis. *Am J Surg Pathol* 1996; 20: 94–102.

Reply

EDITOR,—I entirely concur with the sentiments by Michell *et al* with regard to the difficulties of biopsy diagnosis in so called non-infectious colitis. I also accept that diffuse chronic inflammatory pathology associated with diverticular disease is a rare condition, as my leading article indicated. Focal luminal inflammation is more common in diverticular disease¹ but is still rare giving the overall prevalence of diverticular disease in the population. I was interested in their series that not only reports the comparative rarity of diffuse 'diverticular colitis' but also seems to identify an interesting subgroup of patients, particularly young women, with prolonged but mild 'inflammatory bowel disease'. As they indicate, this series of patients requires further investigation as to whether it represents a distinct disease entity.

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- 1 Gore S, Shepherd NA, Wilkinson SP. Endoscopic crescentic fold disease of the sigmoid colon: the clinical and histopathological spectrum of a distinctive endoscopic appearance. *Int J Colorect Dis* 1992; 7: 76–81.

Helicobacter pylori and duodenogastric reflux

EDITOR,—The paper by Ladas *et al* (*Gut* 1996; 38: 15–8) considers a very interesting theme, however it has some important methodological drawbacks, which in my opinion may affect the results. Firstly, a one hour assessment of duodenogastric reflux (DGR) seems inappropriate. A 24 hour monitoring is needed to quantify the exposure time of the mucosa to the refluxate. This is true because, although duodenogastric reflux physiologically occurs during 24 hours in normal subjects,^{1,2} 18 of 29 (62.1%) subjects included in this study and, more importantly, eight of 18 (44.4%) of those who were considered more prone to reflux (*H pylori* positive subjects) were shown to be devoid of duodenogastric reflux. Secondly, the *H pylori* positive and *H pylori* negative series of subjects hardly seem comparable (44.4% DU, 44.4% NUD, 11.1% oesophagitis in the *H pylori* positive and 18.2% DU, 81.8% NUD in the *H pylori* negative group). These different illnesses are certainly capable of affecting duodenogastric reflux differently, independently from *H pylori* status! Thirdly, post-treatment assessment of duodenogastric reflux (despite the inadequate method) in the three subjects, who had pre-treatment reflux and were not successfully cured of *H pylori*, would have been interesting. Reflux persistence after eradication failure could have represented a good counterproof and would have strengthened the datum of eradication associated reflux disappearance, which was obtained in only six subjects! Unfortunately this was not done.

Therefore, the paper provides enough evidence for the conclusion that '*H pylori* may survive the noxious effect of bile reflux in the