Figure 2 Surgical specimen consisting of the spleen with an abscess on the posterior aspect.

has received no further etanercept and has no evidence of a flare up of his arthritis six months postoperatively. He was given prophylactic low dose penicillin and anti-pneumococcal vaccination.

Case 2

A 40 year old female presented via A&E with a three day history of abdominal pain and rigors. She had been treated with infliximab for six weeks for severe rheumatoid arthritis resistant to other therapies. On examination she had a pyrexia of 39.2°C with right upper quadrant tenderness. She deteriorated with worsening sepsis and metabolic acidosis and required admission to ITU for inotropic support. Once stabilised, a CT scan of her abdomen demonstrated a large right sided hydronephrosis (fig 3). Urine cultures were negative but blood cultures grew *Escherichia coli*. After 48 hours of intravenous cefuroxime and gentamicin she improved and was discharged to the ward.

Discussion

TNF- α is an inflammatory cytokine that is essential in defence mechanisms against sepsis. However, in inflammatory arthritis it is present in both joints and blood in high concentrations. The suggestion that TNF- α is a critical cytokine in driving inflammatory diseases is supported by the success in blocking this cytokine. However, this may render the patient more prone to severe sepsis. Rheumatologists are aware of this, and screen patients for sepsis prior to starting the drugs, especially tuberculosis,^{4,5} and monitor patients for sepsis before each drug is given. Patients with a predisposition to

Figure 3 Computed tomography. Expanded non-enhancing right kidney consistent with pyelonephritis.

infection or chronic infection are ineligible for anti-TNF- α therapy. The British Society for Rheumatology has drawn up guidelines for these issues.⁶

The patients presented here had delay in initial diagnoses. This might have resulted in a worse outcome or even death. We suggest that patients who have received anti-TNF- α therapy and develop non-specific abdominal pain should proceed to urgent abdominal ultrasound or CT scan to exclude significant intra-abdominal sepsis. A further concern is that anti-TNF- α drugs may diminish the acute phase response, so that significant sepsis may not always have dramatic or acute presentations. This may lull the attending doctor into a false sense of security. Doctors who encounter patients on anti-TNF- α therapy need to be aware of the possible complications. They should be treated as if they are significantly immunocompromised, and non-specific symptoms such as abdominal pain need to be investigated intensively.

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doi: 10.1136/gut.2005.085449

Conflict of interest: None declared.

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In vivo diagnosis of collagenous colitis by confocal endomicroscopy

Collagenous colitis is a form of microscopic colitis which has recently been recognised as an entity of its own, characterised by chronic watery diarrhoea of unknown aetiology. The diagnosis of collagenous colitis relies on

histopathological examination of biopsy specimens from colorectal mucosa, which is usually of normal macroscopic appearance. The typical histological feature is diffuse thickening of the subepithelial collagen layer beneath the basement membrane and an unspecific chronic inflammatory infiltrate of the lamina propria.^{1–3}

Recently, a confocal laser endomicroscope has been developed that is integrated into the distal tip of a conventional video endoscope. This confocal laser microscope (EC-3870CIFK; Pentax, Tokyo, Japan) was designed to enable subsurface imaging of living tissue during ongoing endoscopy and allows confocal microscopy in addition to standard video endoscopy. Images are generated by intravenously administered fluorescein sodium as the fluorescent contrast agent and an argon ion laser integrated into the system that generates an excitation wavelength of 488 nm.^{4,5} For the first time, we used fluorescein aided confocal laser endoscopy for the immediate diagnosis of collagenous colitis.

A 67 year old woman was admitted to the first Medical Clinic, Johannes Gutenberg University Mainz, on July 2004, with a long history of watery diarrhoea with postprandial pain and bloating. Colonoscopy was performed using the confocal laser endoscope, enabling video endoscopy and endomicroscopy. We administered intravenously 10% fluorescein 5 ml, as a prerequisite contrast stain for endomicroscopy to enable confocal endomicroscopy of the colonic mucosa. Confocal image data were then collected at a scan rate of 0.8 frames per second (1024×1024 pixels) using an optical slice thickness of 7 μ m. Confocal images were generated simultaneously with endoscopic images. Total examination time was 36 minutes (including 12 minutes for endomicroscopy). Using this approach, cellular and subcellular structures of the colonic epithelium (surface epithelium and crypts), connective tissue, and vasculature could be seen in this patient with a lateral and axial resolution of less than 1 μ m (see fig 1). Penetration depth of the laser was approximately 250 μ m, and this depth allowed us to examine almost all parts of the colonic mucosa.

Subepithelial thickened collagenous bands could be readily identified by performing endomicroscopy. All parts of the colon were examined by placing the endomicroscopic window at the distal tip of the endoscope onto the mucosal layer. Endomicroscopic images were obtained every 15 cm within the colon. A total of 322 confocal images from six different sites were graded for the presence of collagenous bands and targeted biopsies were performed.

Biopsy specimens were fixed in 4% formalin and embedded in paraffin. Sections (4 μ m thick) were stained with haematoxylin-eosin. For assessment of the collagen band, van Gieson staining was used. Typical microscopic changes were identified endomicroscopically in four of six sites (right sided colon and transverse colon) which was confirmed by ex vivo histology in all cases.

It is well known that collagenous colitis can demonstrate a discontinuous pattern. Endomicroscopy may be well suited to target and identify affected areas. However, true specificity cannot be given in our limited series.

The patient received 9 mg of oral budesonide daily for six weeks, resulting in reduced postprandial complaints and diarrhoea.

Figure 1 Collagenous colitis diagnosed *in vivo* by confocal laser endomicroscopy. (A) Endomicroscopy of the surface of the mucosal layer showing crypt deformation. Four crypts with different shapes were aggregated (arrow). Note that the black dots within the crypts represent mucin in goblet cells. (B) Subepithelial collagenous bands were readily visible in the upper third of the affected mucosa (imaging depth $\sim 150 \mu\text{m}$). The collagenous bands surround single crypts (arrows). (C) In deeper parts of the mucosa (imaging plane depth $\sim 200 \mu\text{m}$) the collagenous bands were displayed as dark bands within the lamina propria (arrows). The inhomogeneous distribution of the bands was clearly visible at high resolution (lateral resolution less than $1 \mu\text{m}$). The scale bar at the right upper corner represents $100 \mu\text{m}$. The blue line measures the collagenous band ($31 \mu\text{m}$). (D) Normal colonic mucosa with regular distribution of crypts (arrow) without cryptal damage or tissue changes in the lamina propria. (E) Histological specimen after haematoxylin-eosin staining. The subepithelial bands were identified beneath the basement membrane (arrow). (F) van Gieson staining highlighted the collagenous bands. The inhomogeneous distribution corresponds well with the endomicroscopic image (see C).

In conclusion, endomicroscopy allows localisation and measurement of the amount of collagenous bands in the mucosal layer. Thus endomicroscopy offers the possibility of targeted biopsies, which is a new approach in collagenous colitis where randomised biopsies, preferably in the right colon, are recommended. The distribution of the collagenous bands is patchy and segmental in the colon. Confocal endomicroscopy helps to differentiate between affected and normal sites. This initial experience was proven in four additional patients. In all patients, collagenous colitis was precisely predicted and the amount of collagenous bands was measured. However, this new diagnostic possibility and its sensitivity and specificity must now be evaluated in prospective studies.

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doi: 10.1136/gut.2005.084970

Conflict of interest: None declared.

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BOOK REVIEW

Textbook of Paediatric Gastroenterology and Nutrition

Edited by S Gaundolini. London: Taylor and Francis, 2004, pp 804. ISBN 1-84184-315-6.

In his preface to this book, Professor Gaundolini states that his ambition in the

creation of this text is to produce a book with a global flavour; to reflect scientifically correct and updated information but also to focus on the different problems that we face in different parts of the world. In order to achieve this he has brought together an impressive array of international experts to produce the chapters. In many textbooks this results in fragmentation with a lack of any cohesion throughout the volume. This is not the case with this book, and there has obviously been a strong editorial lead. My only criticism is that on occasion the local practise takes preference and occasionally lacks balance, with the authors preferred theory taking the fore.

However, I feel on balance this does not detract from the overall effect. The book is set out to provide a problem orientated approach to the subject, reflecting the many challenges facing a paediatric gastroenterologist. It also lives up to the preface by tackling the problems both of the developing world, such as malnutrition and parasites, and the more esoteric problems, such as small intestinal transplantation. All of the chapters combine a good clinical approach with an updated scientific background to management. I was asked to review this book at the time of preparation of a series of lectures for specialist registrars in paediatric gastroenterology. I therefore gave the book a practical test drive!! It proved to be a valuable resource of essential facts to be covered.

I would strongly recommend this book to registrars training in paediatric gastroenterology. It provides a valuable guide to all of the conditions they are likely to face in a user friendly format. It would also be a good addition for any adult gastroenterology department to illustrate the problems that are to be encountered in the increasing number of patients who are being handed on to their service from paediatricians!

N Meadows

CORRECTIONS

doi: 10.1136/gut.2004.059063corr1

The authors of the GI snapshot on p1278 of the September issue of *Gut* (2005;**54**:1278) would like to state the work was done at The Department of General Surgery, Royal Alexandra Hospital, Paisley, UK, not the Canniesburn Plastic Surgery Unit, Glasgow Royal Infirmary, UK.

doi: 10.1136/gut.2005.08195corr1

It has come to our attention that there is a dosage error in the print version of the ECCO Consensus on the Management of Crohn's Disease supplement to *Gut* (March 2006, Volume 55, Supplement I).

The error occurs on page i22 in section 5.4.7. The first line of this section should read:

Methotrexate 25mg/week (oral, subcutaneous or intramuscular injection, unlicensed therapy for IBD) may be used in a similar fashion to thiopurines.

The online version of this article is correct. The authors apologise for this error.