Clinical Medicine 2012, Vol 12, No 4: 389–90

lesson of the month (1)

Ulcerative colitis presenting as pyrexia of unknown origin (PUO) without bowel symptoms

Ulcerative colitis (UC) can rarely present with fever but it is unusual for it to be devoid of gastrointestinal symptoms. We report a case of UC that presented without bowel symptoms; fever being the only clinical feature. This case highlights the importance of considering UC as a cause of pyrexia of unknown origin (PUO) even in the absence of the lower gastrointestinal features commonly associated with this pathology. It is important to recognise this association as the incidence of UC is increasing in the older population.

Lesson

A 71-year-old female was admitted with persistent fever. She complained of non-specific symptoms but had no abdominal pain, diarrhoea, shortness of breath, cough or urinary symptoms. She denied previous medical problems and was not on any medications. Prior to admission she was mobile with a frame and was independent.

On examination, the patient had temperature of 38.0°C. She was haemodynamically stable. Apart from a soft ejection systolic murmur of aortic sclerosis and few basal crepitations, no abnormality was recorded. Abdominal examination showed no tenderness or mass. Liver and spleen were not palpable and there was no lymphadenopathy. There was a shallow leg ulcer that showed no clinical evidence of infection but grew methicillin-resistant *Staphylococcus aureus* (MRSA). No other focus for infection was found.

Initial blood tests showed anaemia with Hb 6.7 g/dl (normal 12–15 g/dl) with normal haematinics. Erythrocyte sedimentation rate (ESR) was 90 mm/hour. White cell count was normal but c-reactive protein (CRP) was elevated at 237 mg/l (normal <6 mg/l). A chest X-ray was unremarkable.

The patient was treated with teicoplanin for MRSA in the leg ulcer, but her temperature failed to settle despite a prolonged course of teicoplanin. CRP remained elevated and the patient continued to spike temperatures. Four sets of blood cultures were negative and no clinically identifiable focus of infection was found. Investigations including Hepatitis B and C serology, protein electrophoresis and autoantibody screen were negative and an echocardiogram showed no vegetations.

A review of the hospital records revealed that the patient had been admitted to hospital eight months earlier with fever lasting a month without a clear diagnosis. Investigations at the time, including a CT scan of the abdomen and a transoesophageal echocardiogram, were normal. Another admission two months later was secondary to diarrhoea, per-rectal bleeding and weight loss. A flexible sigmoidoscopy showed colitis and the biopsy confirmed ulcerative proctocolitis. The patient was treated with steroids and sulfasalazine. As the diarrhoea settled, the patient discontinued sulfasalazine and steroids and subsequently remained symptom-free for several months.

In view of the fact that the patient had no lower gastrointestinal symptoms on this admission, UC was considered an unlikely cause of pyrexia. The patient proceeded to a positron emission tomography (PET) scan (Fig 1), which revealed strong uptake, consistent with active inflammation, in the colon.

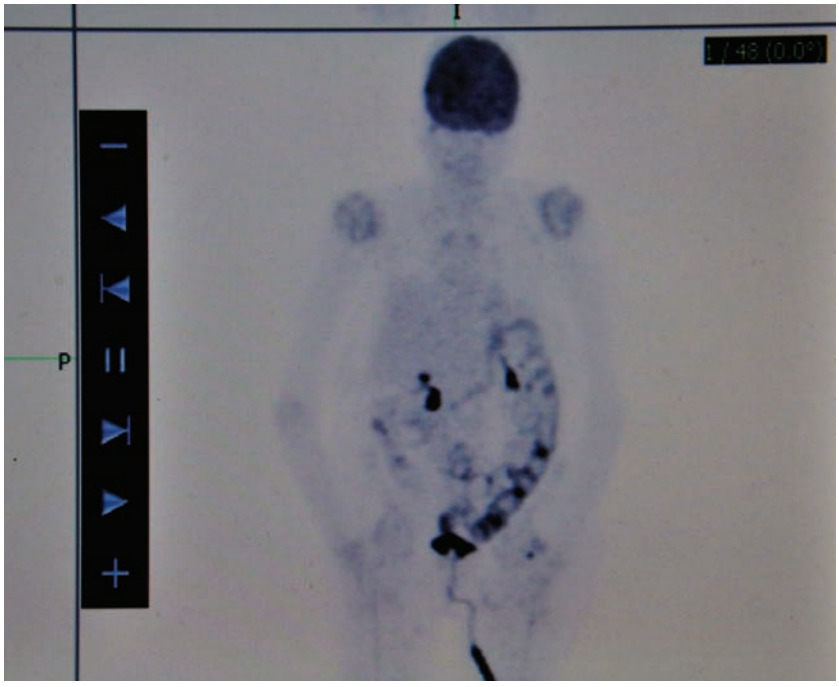

Fig 1. A PET scan showed extensive uptake in the descending and sigmoid colon.

Raya Shpilberg, FY1; **Demetra Hadjiyiannis,** FY2; **SA Khan,** consultant physician, Department of Elderly Care

Lister Hospital, Stevenage, UK

Key points

- Ulcerative colitis can be a cause of PUO
- It can present without any gastrointestinal symptoms in older patients
- FDG-PET scanning is a useful diagnostic tool in patients with PUO

In view of the PET scan result and the previous diagnosis of UC, the patient was commenced on prednisolone 30 mg and mesalazine. Her symptoms improved rapidly with resolution of pyrexia along with normalisation of ESR and CRP. There were no further febrile episodes and the patient made an uneventful recovery. She was discharged home with a reducing dose of steroids and there were no further episodes of pyrexia over a year of follow-up.

Discussion

PUO has broad differential diagnosis.[1] UC is common and typically presents with gastrointestinal symptoms such as diarrhoea, rectal bleeding and weight loss, as well as with various extra-intestinal symptoms. The peak age of presentation is 39 years, but more than 10% of UC cases first present in patients over the age of 60. The incidence of UC in older people is increasing,[2] although the disease course tends to be milder in older patients.

No cases of UC presenting with PUO without bowel symptoms have previously been reported. Two cases of Crohn's disease presenting with fever but without gastrointestinal symptoms have been reported in French and Spanish literature.[3,4]

Several studies have supported the use of PET using ^{18}F-fluorodeoxyglucose (^{18}F-FDG) when conventional, baseline investigations have not been successful in diagnosing PUO.[5,6] In this case, the source of inflammation in the colon was highlighted on PET scanning and the diagnosis of UC in the absence of gastrointestinal symptoms was made on the basis of the recent flexible sigmoidoscopy and biopsy results.

To our knowledge, this is the first reported case of ulcerative colitis presenting solely as PUO without associated gastrointestinal symptoms in an older patient. The patient was followed-up for more than a year and had no further temperature or bowel symptoms.

References

1 Varghese GM, Trowbridge P, Doherty T. Investigating and managing pyrexia of unknown origin in adults. *BMJ* 2010;341:878–81.

2 Lakatos PL, David G, Pandur T *et al.* IBD in the elderly population: results from a population-based study in Western Hungary 1997–2008. *J Crohns Colitis* 2011;5:5–13.

3 Rozenbaum M, Singer P, Nagler A *et al.* Fever as the sole symptom of Crohn's disease in an old man. *Ann Gastroenterol Hepatol* 1988;24: 59–60.

4 Domínguez A, Peña JM, Barbado FJ *et al.* Prolonged course fever as presentation form of Crohn's disease. *An Med Interna* 1990;7:39–41.

5 Lorenzen J, Buchert R, Bohuslavizki KH. Value of FDG PET in patients with fever of unknown origin. *Nucl Med Commun* 2001;22:779–83.

6 Buysschaert I, Vanderschueren S, Blockmans D *et al.* Contribution of ^{18}fluoro-deoxyglucose positron emission tomography to the work-up of patients with fever of unknown origin. *Eur J Intern Med* 2004;15:151–6.

Address for correspondence: Dr S A Khan, Lister Hospital, Coreys Mill Lane, Stevenage, Hertfordshire SG1 4AB. Email: shahidkhan@nhs.net