Ulcerative colitis complicated by Wenckebach atrioventricular block

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Abstract

Extracolonic manifestations of inflammatory bowel disease are common and diverse. Cardiac complications, however, are rare and of these pericarditis is the most frequently described association. A 57 year old man with a 20 year history of ulcerative colitis presented with a four day history of retrosternal chest pain and exertional dyspnoea. Electrocardiogram showed Wenckebach atrioventricular block. Three days later he developed bloody diarrhoea and sigmoidoscopy showed active proctocolitis. He was treated with oral prednisolone after which the chest pain and diarrhoea settled within 48 hours. At outpatient review two weeks later he was completely well and the electrocardiogram had returned to normal.

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Case report

A 57 year old man with a past history of ulcerative colitis presented to the Accident and Emergency Department with a four day history of retrosternal chest pain which was worse on inspiration and lying down. He also complained of shortness of breath on exertion. The ulcerative colitis had been in remission for four months.

He first presented in 1961 with bloody diarrhoea and a diagnosis of ulcerative colitis affecting the distal colon was made on the basis of barium enema, sigmoidoscopic appearances, and confirmed by typical histological features of ulcerative colitis in a rectal biopsy. In 1982 he presented with fever, arthritis of the wrist and ankle joints and a macular rash on the legs. Biopsy of one of the skin lesions showed appearances of an allergic vasculitis. Autoantibodies were negative and a rectal biopsy specimen showed active ulcerative colitis. His symptoms settled with the introduction of prednisolone. Since that time he has required intermittent courses of oral prednisolone for relapse of symptoms; typically arthritis has been more troublesome than diarrhoea. There is no other past medical history and at the time of admission he was taking 150 mg azathioprine and 4 g sulphasalazine daily.

On examination the temperature was 38°C, pulse 60 beats per minute and blood pressure 120/70 mm Hg. The jugular venous pressure was not raised, the heart sounds were normal with no added sounds and examination of the chest and abdomen was normal. Rectal examination and sigmoidoscopy were not done. Haemoglobin on admission was 12.4 g/dl, white cell count 9.8×10^9 /litre (neutrophils 8.4×10^9 /litre), platelets 199×10^9 /litre, erythrocyte sedimentation rate 70 mm/hour. Urea and electrolytes were within

normal limits. Serum aspartate transaminase 32 IU/l (normal range 10-40 IU/l) and hydroxybutyrate dehydrogenase 72 IU/l (normal range 40-140 IU/l) were normal and remained within the normal range over the next three days. Blood cultures taken on three occasions were all negative. The admission electrocardiogram showed Wenckebach atrioventricular block (Fig 1) whereas a previous examination in 1982 had been normal. Chest radiograph and echocardiogram were both normal.

The chest pain was thought to be caused by pericarditis and indomethacin was started. Two days after admission he developed bloody diarrhoea and abdominal pain; rigid sigmoidoscopy showed active proctocolitis which extended beyond the reach of the sigmoidoscope. Treatment was started with 40 mg prednisolone orally each day and within 48 hours the chest pain and bloody diarrhoea were substantially improved. Two weeks later at outpatient review bowel habit was normal and the chest pain had resolved completely. Review of viral serology showed no evidence of a recent viral infection. The erythrocyte sedimentation rate had decreased to 30 mm/hour and a repeat electrocardiogram was entirely normal (Fig 2). An exercise electrocardiograph was entirely normal (Fig 2). An exercise electrocardiograph after full recovery showed no evidence of myocardial ischaemia. The patient remains well six months later.

Discussion

Extragastrintestinal features of inflammatory bowel disease are well recognised and affect many systems.¹ Cardiac involvement has been described only rarely. The character of the chest pain in this patient was very suggestive of pericarditis. A pericardial rub, ST changes on electrocardiograph or the demonstration of a pericardial effusion on the echocardiogram would have supported the diagnosis but acute inflammation may occur in the absence of these findings with only a fever or typical chest pain to suggest the diagnosis.² Several cases of pericarditis in patients with ulcerative colitis and Crohn's disease have been reported, usually in association with relapse of bowel symptoms. Pericarditis and bowel symptoms have responded rapidly to corticosteroid therapy.³⁻⁶ Reports of heart block are uncommon and all have occurred in patients with ulcerative colitis.⁷⁻⁹ Of the three patients with complete heart block, one has required a permanent pacemaker,⁷ another improved but continued with first degree heart block⁸ and a third recovered completely after treatment with prednisolone.⁹ An association between heart block with ulcerative colitis was suggested in these

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Figure 1: Electrocardiogram on admission to hospital with chest pain, showing Wenckebach atrioventricular block.

Figure 2: Electrocardiogram at outpatient review two weeks after admission showing no significant abnormality and complete recovery of the atrioventricular block observed two weeks previously.

cases because of a temporal relationship between development of heart block and a relapse of the colitis. Other causes of heart block, in particular ischaemic heart disease, however, were not excluded and the two conditions may have been coincidental.

There are several features of our patient which suggest that heart block was a complication of ulcerative colitis and not a coincidental association. The cardiac abnormalities were closely associated with a relapse of bowel symptoms and both improved in parallel after the introduction of prednisolone. Echocardiogram and an exercise test were both normal. We therefore considered it unlikely that heart block in this case was secondary to other causes such as

viral myocarditis or ischaemic heart disease.

Cutaneous vasculitis may complicate ulcerative colitis and indeed had occurred previously in our patient. Systemic vasculitis is very uncommon; arteritis of large vessels and pulmonary vasculitis has been reported in patients with ulcerative colitis and has improved with steroids.^{10 11} This is the first reported case of Wenckebach atrioventricular block complicating ulcerative colitis and we suggest that it was probably caused by an arteritis of nodal vessels.

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