Serositis and inflammatory bowel disease

Introduction

Crohn's disease and ulcerative colitis are chronic inflammatory bowel diseases that can involve organs other than those of the gastrointestinal tract. This article reports two separate cases of inflammatory bowel disease involving serosa, and also reviews literature on the association of these two conditions. Recognition of this association is important not only for specialists but also for general physicians.

Discussion

Although both primarily involve the bowel, Crohn's disease and ulcerative colitis can be associated with significant extraintestinal manifestations (*Table 1*). Extraintestinal involvement rates in inflammatory bowel diseases have been reported as between 21 and 41% (Storch et al, 2003). Serositis in the form of pleuritis and pericarditis is a well-described rare extraintestinal manifestation of inflammatory bowel disease (Ho et al, 2006).

Respiratory tract involvement is a rare complication of inflammatory bowel disease. The pathogenesis is explained by the development of the gastrointestinal and respiratory system from the same embryological origin (primitive gut) and the antigen theory (Storch et al, 2003). Four patterns of respiratory tract involvement are associated with inflammatory bowel disease: airways inflammation, interstitial lung disease, necrotic parenchymal nodules and serositis (Camus et al, 1993).

Mahadeva and colleagues (2000) studied 17 inflammatory bowel disease patients with pulmonary involvement of whom 14 had ulcerative colitis and three had Crohn's disease. In 16 patients, the onset of bowel disease was earlier than the respiratory involvement. No patient had active bowel involvement at the time of the study, and seven patients had previously had colectomy for severe bowel disease.

Pulmonary involvement in inflammatory bowel disease can present years after the onset of bowel disease and can affect any part of the lung. Patients with inflammatory bowel disease may not have typical symptoms of lung involvement and a high degree of suspicion is needed to diagnose the disease. Early recognition of the association is crucial, as both alveolar and airway disease will usually respond to steroids.

Cardiac involvement is also rare in inflammatory bowel disease. Acute pericarditis is the most common cardiac abnormality followed by myocarditis (Oxentenko et al, 2002). Conduction defects and cardiac tamponade may also

Case Report 1

A 53-year-old man who had undergone an ileocaecal excision with end-ileostomy for Crohn's disease presented with breathlessness 6 weeks later. Computed tomography pulmonary angiogram did not reveal pulmonary embolism, but demonstrated left pleural effusion and pericardial effusion. An echocardiogram confirmed the pericardial effusion with no features of tamponade. The pleural effusion was drained and analysis proved this to be an exudate. Cytology was negative. Pleural biopsy showed small fragments of fibrous tissue with scattered mononuclear inflammatory cells. Any other underlying cause directly related to pleural or pericardial effusion, in particular infective, autoimmune and malignant causes, was excluded. He was treated with a reducing course of steroids. There was resolution of the effusions along with symptomatic improvement.

Case Report 2

A 75-year-old man presented with a 3-week history of breathlessness. He gave a history of ulcerative colitis (which was currently quiescent), stroke, hypertension and diabetes mellitus. On examination, he had dullness and reduced air entry in the left lung, and also clinical signs of tamponade. Chest X-ray confirmed left pleural effusion and an echocardiogram revealed moderate pericardial effusion and thickened pericardium. About 1 litre of straw-coloured pleural fluid was aspirated, while 100 ml of blood-stained serous pericardial fluid was removed under ultrasound guidance. Results of pleural and pericardial fluid analysis, and pleural biopsy did not reveal any specific aetiology. Other common causes for this presentation, such as infections, connective tissue disorders and malignancy, were ruled out. A diagnosis of serositis related to ulcerative colitis was made and steroids commenced. He improved symptomatically although he had therapeutic aspiration of pleural effusion on two further occasions.

Table 1. Systemic complications of inflammatory bowel disease

Concurrently with intestinal disease activity	Conjunctivitis
	Iritis
	Episcleritis
	Fatty liver
	Liver abscess
	Portal vein thrombosis
	Venous thrombosis
	Arthralgia
	Erythema nodosum
	Pyoderma gangrenosum
Unrelated to intestinal disease activity	Autoimmune hepatitis
	Sclerosing cholangitis
	Cholelithiasis
	Amyloidosis
	Sacroilitis
	Ankylosing spondylitis
	Pulmonary disease
	Cardiac disease

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occur in some cases. Most cases have been reported with ulcerative colitis, although Crohn's disease has also been reported in inflammatory bowel disease-related pericarditis (Manomohan et al, 1984). Cooper et al's (1997) study of 86 patients with idiopathic giant cell myocarditis revealed inflammatory bowel disease as the most common associated disorder. In all cases, the diagnosis of inflammatory bowel disease preceded myocarditis by several years.

Occult inflammatory bowel disease should be excluded in patients who present with pericarditis of unknown origin. Pericarditis may occur independently of other extraintestinal manifestations, and may recur despite quiescence of the inflammatory bowel disease (Sarrouj et al, 1994). Bragagni and colleagues (2007) demonstrated that cardiac involvement in Crohn's disease is frequent, but the mechanisms that cause these phenomena are unable to be identified. Pericarditis caused by inflammatory bowel disease or other autoimmune diseases such as systemic lupus erythematosus, Sjögren's syndrome, scleroderma or polymyositis usually responds well to corticosteroids while pericarditis caused by rheumatoid arthritis has a poor response to medical therapy and requires surgery.

Conclusions

Serositis is an uncommon extraintestinal manifestation of inflammatory bowel disease. It should be considered in the differential diagnosis of inflammatory bowel disease patients presenting with chest pain and breathlessness. A high index of suspicion is crucial as the outcome is usually good with steroids. **BJHM**

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Aquagenic pruritus

A 24-year-old man presented to his GP with a 3-week history of pruritus confined to the palms of his hands within minutes of bathing or showering. He stated that his symptoms generally regressed within 45 minutes. The pruritus occurred regardless of water temperature and he denied any allergy to soaps or shampoos.

Upon immediate exposure to water the patient's fingertips and thenar eminence became markedly wrinkled (*Figure 1* – A). In addition he developed a small rash on his left palm comprised of red non-blanching macules (*Figure 1* – B). A routine full blood count, liver and renal function as well as haematinics were unremarkable.

The GP initially prescribed the antihistamine hydroxyzine which provided only mild relief. The medication was stopped and cimetidine was later instigated. After 1-month follow up the patient remained asymptomatic. He was instructed to continue with the medication only as needed. **BJHM**

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Figure 1. The patient's hands following immediate exposure to water.