The systemic complications of ulcerative colitis

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Summary

A brief review of some of the systemic lesions of ulcerative colitis has been made.

In 465 patients seen between 1948 and 1963 in Leeds, skin lesions occurred in 6.2%, colitic arthritis in 12.0%, sacro-iliitis in 18% and spondylitis in 6%. Eye lesions developed in 4% and liver disease in 2%.

The significance of some of these lesions has been reviewed.

Incidence

The frequency of various systemic complications of ulcerative colitis was studied in the series of 465 patients investigated in Leeds between 1948 and 1963 by de Dombal and his colleagues. Skin lesions occurred in twenty-nine patients (6.2%), colitic arthritis in fifty-six patients (12.0%), sacro-iliitis in forty-two patients (18%) and florid spondylitis in thirteen patients (6%). Eye lesions developed in nineteen patients (4%) and liver disease in ten patients (2%). Mouth ulcers (16%) and deep venous thrombosis (5%) seemed to occur more frequently than might have been expected though no statistical differences could be demonstrated.

Skin lesions

Three types of skin lesions are commonly encountered namely, erythema nodosum, present in 1.7% of the series which is often recurrent and ulcerative. Pustular skin lesions such as multiple furuncles and local abscesses are commonly seen and pyoderma gangrenosum, a specific colitic lesion, is not uncommonly observed, namely in 2.8%. Leg ulcers occurred in 1.7% of the series.

Colitic arthritis

While it has long been recognized that the course of ulcerative colitis may be punctuated by bouts of arthritis (Bargen, 1930) it is only quite recently that the characteristics of colitic arthritis have been clearly defined (Bywaters & Ansell, 1958; Wright & Watkinson, 1959, 1965a, b; McEwen *et al.*, 1962). While rheumatic com-

plaints are common in colitic patients they can usually be identified as a complicating recognizable rheumatic disease. In 12% a specific type of arthritis, distinct clinically and serologically from rheumatoid arthritis can be identified (Wright & Watkinson, 1965a).

Colitic arthritis occurs with equal frequency in men and women, and usually develops between the ages of 25 and 44. It is characterized by a recurrent acute synovitis usually mono-articular and asymmetrical, commencing most commonly at the knees or ankles. Attacks were usually of short duration with rapid recovery unaccompanied by any residual joint deformity or radiological changes. Exacerbations of joint symptoms usually coincided with colitic relapses. Arthritis was more common in patients with long histories, with chronic disease, with extensive colonic involvement, with colonic complications and in patients with other systemic complications. Steroids usually improved joint symptoms but the arthritis could be sufficiently intractable to be an indication for colectomy, which almost invariably cured the situation.

Sacro-iliitis and ankylosing spondylitis

A relationship between ankylosing spondylitis and bowel complaints has been postulated by several authors (Fernandez-Herlihy, 1959; Court-Brown & Doll, 1957), the latter workers finding that the mortality from ulcerative colitis in 13,352 spondylitic patients was twenty times greater than expected. Wright & Watkinson (1965b), therefore, made a prospective survey of 234 colitic patients and a similar number of matched controls to determine the frequency of radiological changes in the sacroiliac joints with and without symptoms of spondylitis. They found that radiological sacro-iliitis was significantly more common in colitic patients than in control subjects, 18-4.7% and was equally common in men and in women, differing from ankylosing spondylitis which is four times as common in men. The incidence of sacro-iliitis could not be related to the duration, extent and clinical type of colitis nor did local colonic complications

increase its frequency. It was significantly more common in women with colitic arthritis and both sexes who had skin lesions.

Thirteen patients were found to have florid ankylosing spondylitis; even when four patients especially referred were excluded the incidence is grossly in excess of the frequency of spondylitis in the general population, estimated at 1 in 2000 (West, 1949). Eight of the patients were men and five women. Spondylitic symptoms preceded, followed or developed synchronously with colitic symptoms with equal frequency. Surgery cannot be relied upon to arrest the progression of the spondylitis (Fernandez-Herlihy, 1959).

Eye lesions

Ocular disease is rare in ulcerative colitis. Since the association was first described by Crohn in 1925, sporadic case reports have appeared in the literature and more recently detailed analyses have been made (Edwards & Truelove, 1964, Wright *et al.*, 1965).

In an attempt to identify the frequency and type of ocular complications in colitis, 465 patients were reviewed and examined jointly by ophthalmologist and gastroenterologist (Billson *et al.*, 1967). Seventeen patients (3.6%) were found to have eye lesions, which were slightly more common in women than in men (3.7–2.9%) and usually developed around the age of 35 years. The commonest lesions were episcleritis (1.5%) and iritis (1.1%) while keratitis occurred in three patients.

Eye lesions were more common in severe attacks and in patients with total colonic involvement and were most frequently observed in the 1st year of colitic symptoms though they could develop at any time subsequently. Eye complications were almost always associated with at least one other systemic complication particularly with colitic arthritis and with skin lesions. Eye complications usually improved with steroid treatment and the low incidence in the group may have been related to the widespread use of these agents in treating severe colitic attacks. Colectomy could not be guaranteed to cure ocular symptoms some patients continuing to have attacks of iritis after operation. The diarrhoeal type of Reiter's disease can usually be distinguished from ulcerative colitis with ocular complications (Billson *et al.*, 1967).

Liver disease

Liver disease is commonly found in ulcerative colitis. The frequency of *fatty infiltration* was stressed by Pollard & Block (1948) and Warren

& Sommers (1949) on autopsy material and in operative biopsies by Bacon (1958) and Brooke, Dykes & Walker (1961) which they felt reflected the severity of the illness. *Pericholangitis* is less common but more specifically related to the colitis. Infection spreads to the liver via the portal vein and it may be possible to culture coliform organisms from the portal vein or liver substance (Brooke *et al.*, 1961; Rankin *et al.*, 1959). The condition is often symptomless and recognized by abnormal serological tests suggesting an obstructive jaundice. In other cases fever, pain and jaundice may develop while occasional cases progress to biliary cirrhosis. Jaundice is a serious prognostic sign in colitis as the lesion may progress after colectomy (Boden *et al.*, 1959).

Recently the relationship of ulcerative colitis to primary sclerosing cholangitis of the larger bile ducts have been emphasized which need surgical correction of the obstruction and may carry a slightly better prognosis than intrahepatic cholestasis (Thorpe, Scheuer & Sherlock, 1967). Rarely colitis may be complicated by intra-bile-duct carcinoma (Rankin, Skyring & Goulston, 1966).

Colitis may also not uncommonly be associated with active chronic hepatitis and cirrhosis, an association recently reviewed by Holdsworth and his colleagues (1965). Our experience in Leeds based on the incidence of liver disease in operative biopsy specimens has been reviewed by de Dombal, Goldie & Goligher (1966). Liver lesions of various types were found (in 2% of the patients fatty disease was encountered most commonly) and pericholangitis and cirrhosis. Its occurrence could be related to the severity, duration and extent of the colitis. Pericholangitis and cirrhosis appreciably worsened the prognosis of colitis, as they tended to progress after surgery.

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