Review Article

Arthritis in Inflammatory Bowel Disease

A SHAUKAT A SHAUKAT A SHAUKAT* *K AADIL* **H AAMIR* *T Q KHAN*

Department of Acute Medicine, Lister Hospital, Stevenage, UK

**Department of Radiology, Mayo Hospital, Lahore, **Department of Medicine, Punjab Medical College/Allied Hospital, Faisalabad*

Correspondence to Dr. Aadil Shaukat , Senior House Officer

Inflammatory bowel disease is a systemic disorder with intestinal and extra-intestinal features. Arthritis is a well recognized extra intestinal manifestation. Spondylitis, sacroiliiatis are the common involvement with IBD. NSAIDs are generally recommended in the treatment with caution due to its potential of flaring up the gastrointestinal symptoms. Sulphasalazine, methotraxate, aziothioprine and anti TNF alpha agents are licensed for treatment of arthritis in IBD.

Keywords: Inflammatory bowel disease, arthritis, spondylitis, sacroiliiatis

Arthritis is a well recognized manifestation of different gastroenterological diseases. Arthritis includes in the extra intestinal manifestation of diseases. Inflammatory bowel disease, bacterial and parasitic infections of the gut, celiac disease, pseudo membranous colitis among others include in the spectrum of disease with arthritis as a complicating feature of the underlying disease. Here we will give an overview of arthritis involvement in inflammatory bowel disease.

Arthritis occurs in 9 to 53 percent of cases of inflammatory bowel disease[1,2]. The complication is prevalent equally in males and females and similarly affects children and adults with the disease.

Clinical Manifestation:

In IBD arthritis may affect the spine, sacroiliac joints, appendicular joint or combination of these articulations. Sterile inflammation as a part of the disease process causes arthritis. Complication of the disease like fistulization and bactremia can cause arthritis as well and has to be seriously considered in patients with complicating disease. Arthritis could be a complication of therapy for the disease like avascular necrosis in case of corticosteroid use. Two varieties of arthritis divided into type I and type II is described. Acute or remitting arthritis includes in type I and chronic indolent arthritis is included in type II[3].

Pattern of involvement:

Sacroiliiatis and spondylitis: 1-26 % of the patients with IBD develop sacroiliiatis or spondylitis[4,5]. Males are more frequently affected than females. Patients typically complain of prolonged stiffness in the back and/or buttocks in the morning or after rest. Stiffness and associated pain are often relieved by exercise. Back symptoms are unrelated to those of the gastrointestinal disease. Physical examination may reveal limited spinal flexion and reduced chest expansion. Asymptomatic sacroiliitis, detected by radiography, occurs in 4 to 18 percent of patients with IBD[6]. By contrast, 52 percent of patients with IBD have abnormal technetium pyrophosphate bone scans of the sacroiliac joints[6,7]. There is no increased frequency of HLA-B27 in the subset of patients with IBD and radiographic sacroiliitis. The presence of an abnormal radiograph of the sacroiliac joints does not indicate a higher risk for the development of spondylitis.

Type I Arthropathy: In type I arthropathy the joint is acute. The joint involvement is pauciarticular (affecting 6 or less joints). 5 % of patients with IBD develop type I arthropathy. It usually happens early in the course of the disease and is mostly self limiting illness (in 90% of the cases). The arthritis does not lead to joint destruction or deformities[8,9].

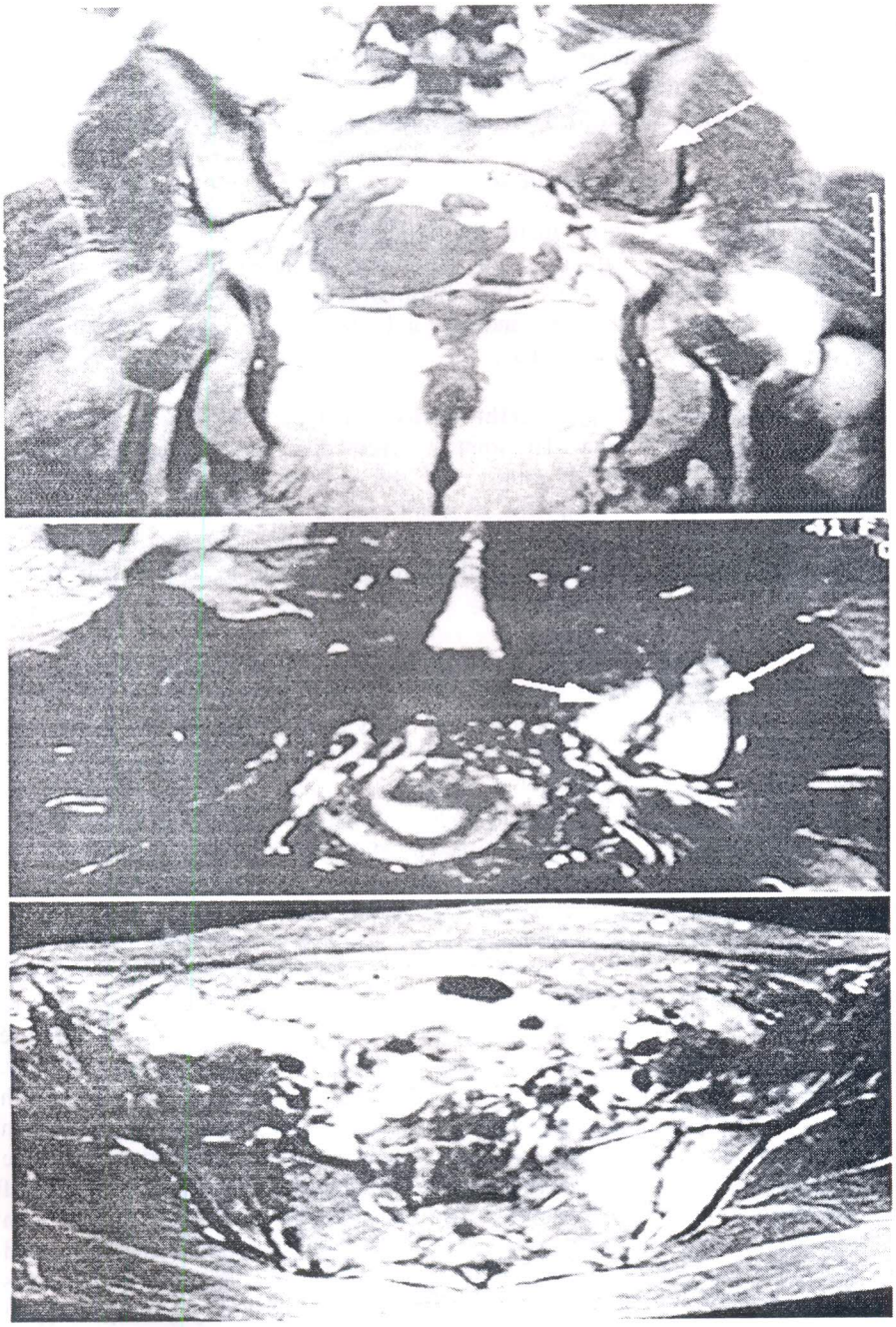
Type II Arthropathy: Type II arthropathy occurs in 3-4 % of cases of IBD. Arthritis does not follow the disease pattern of IBD and rarely tends to precede the illness. The pattern of joint involvement is again pauciarticular and the commonly involved joints are mainly the metacarpophalangeal joints. Other joint like knee, ankles, shoulders, wrists and proximal interphalangeal joints are less affected[8].

Investigations:

Laboratory tests: Full blood count, inflammatory markers like CRP and ESR are normally high because of underlying inflammatory bowel disease, so is of little use to follow the disease activity from arthritis point of view. HLA-B27 is found in 50 to 75 percent of the patients with axial arthritis[4]. Joint fluid examination usually reveals an inflammatory fluid, but is important to exclude an infective source especially if the clinical findings are suggestive of complicating fistulas disease and in patients on immunosuppressant treatments as signs of infection could be very subtle and misleading. For diagnostic purpose it is important to exclude an acute septic joint especially if patient of IBD presents with monoarthritis or even oligoarthritis.

Radiology: Radiographs of the spine and pelvis may show typical findings of ankylosing spondylitis and sacroiliitis.

Plain film radiographs of the peripheral joints demonstrate soft-tissue swelling, juxtaarticular osteoporosis, mild periostitis, and effusions, usually without erosions or destruction. Radiographs frequently have abnormal findings even in asymptomatic patients with IBD. In one study plain film and CT scan were used to evaluate the sacroiliac joints of 65 patients with IBD, none of whom had symptoms of sacroiliitis; 18 percent had finding of sacroiliitis by plain film and 32 percent had had abnormal sacroiliac joints noted by CT scanning[10]. MRI is also useful in picking up changes in the affected or suspected joints. (Figure1,2,3)



Sacroiliitis (Upper panel) Coronal T1-weighted MRI of the sacroiliac joints reveals decreased signal in the sacrum and the iliac in the region of the inferior left sacroiliac joint (arrows).

(Middle panel) Coronal T2-weighted MRI reveals corresponding hyperintense signal in the inferior left sacroiliac joint (arrows).

(Bottom panel) Axial T1-weighted MRI with fat saturation following intravenous gadolinium injection demonstrates intense enhancement of the left sacroiliac joint. These findings are most compatible with sacroiliitis in a patient with inflammatory bowel disease. Courtesy of Doug Brown, MD.

Figure 1,2,3

Treatment:

NSAIDS: Controversies exist regarding the use of NSAIDS or COX 2 agents in treatment of IBD patients with arthritis. There have been reports of linking of flare-up of previous indolent disease with NSAID use. There is evidence of improvement if symptoms and endoscopic findings as well on withdrawal of the offending agent. NSAIDs do effectively relieve the pain and inflammation of the joints, so use is recommended in but with caution. On exacerbation of the symptoms of IBD, these agents should be withdrawn[11,12].

Sulphasalazine: If patient does not show improvement on the use of simple anti-inflammatory drugs or have to be withdrawn for some other reason, then use of sulphasalazine is advised. Gradual increase of dosage and re-assessment of arthritis after 12 weeks of therapy is usually advised.

Methotraxate, aziothioprine and corticosteroid: Poor response to sulphasazine should prompt the use of methotraxate or aziothioprine. There are potentials of drug toxicity and should be considered before starting the therapy. Poor response to the therapy or contraindication to use should prompt use of steroids either intra articularly or systemically.

Anti TNF Alpha agents: There is early promising evidence for the use of these agents in patients with inflammatory bowel disease and arthritis, particular spondyloarthropathy. Patients unresponsive to the above mentioned therapies should be considered for either infliximab or etanercept 13. In selecting among the available anti-TNF therapies, it should be noted that while etanercept may be used safely, and is reported to be effective for arthritis and spinal involvement in Crohn's disease, it is of no benefit for the intestinal manifestations of that disorder, unlike infliximab, which is often used for Crohn's disease and complications such as fistula formation[14].

General accepted recommendation are to start with simple NSAIDs to treat the symptoms and to withdraw the therapy if develop flareup of intestinal symptoms. If uncontrolled then sulphasalzine is advise and if unresponsive or inadequately controlled then methotraxate or aziothioprine are advised. In resistant cases anti TNF alpha is indicated after careful consideration.

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