Juvenile Spondyloarthritis with Microscopic Colitis

RARAN VEETIL DEEPTHI, *SHUBHA P BHAT, **SIDDHARTH M SHETTY AND RATHIKA D SHENOY

*From the Departments of Pediatrics, *Pathology and **Orthopedics, KS Hegde Medical Academy, Nitte University, Nithyananda Nagar, Deralakatte, Mangalore, Karnataka, India.*

Correspondence to:
Dr RV Deepthi, Assistant Professor, Department of Pediatrics, KS Hegde Medical Academy, Deralakatte, Mangalore 575 018, Karnataka, India.
drdeepthirv@yahoo.com
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We report an adolescent girl with long standing spondyloarthritis and chronic diarrhea. Colonoscopy and biopsy revealed microscopic colitis. All serology and HLA-B27 were negative. This case is reported for its rarity and the need to evaluate gut in chronic arthritis to achieve clinical remission.

Key words: *Chronic diarrhea, Microscopic colitis – not otherwise specified, Sacroiliitis.*

Juvenile spondyloarthritis (SpA) is a heterogeneous immune mediated inflammatory arthritis characterized by arthritis and enthesitis of sacroiliac, spinal and lower limb joints in children under 16 years of age with a prevalence of two per 100000. They are usually HLA-B27 positive, IgM rheumatoid factor (RF) and anti nuclear antibody (ANA) negative with familial and male predilection [1]. Extra-articular manifestations involving the gut, eyes, skin, and mucosa are seen in a significant proportion. The clinical association between SpA and inflammatory bowel disease (IBD) is established. Microscopic colitis (MC) is a newly described entity distinct from IBD and may also be associated with SpA [2,3]. We report on a girl with HLA-B27 negative SpA and MC.

CASE REPORT

A 14-year-old girl presented with insidious onset of pain and stiffness involving neck, back and both hips for past three years with abdominal cramps and watery diarrhea since three months. Pain progressed gradually in severity with exacerbations on bending, squatting, walking, sitting cross-legged and limitation of daily activity. There was no involvement of small joints. Poor appetite and weight loss were present. There was no associated fever, or other system involvement including eye, skin, oral or genital mucosa. There was no family history of arthritis, psoriasis or IBD. She had received several NSAIDs, systemic steroids and iron for chronic anemia with no relief. The child had pallor but no clubbing or lymphadenopathy. Her weight and height were at 5th and 25th centiles, respectively. She had diffuse tenderness over cervical and lumbosacral spine. All range of movements of spine and hip were painful and restricted. Bilateral sacroiliac and hip joint tenderness were present. Terminal external rotation of bilateral shoulder was painful. There was no paraspinal tenderness, spasm, limb length discrepancy, plantar fasciitis or Achilles tendinitis. Abdomen was soft with no tenderness or mass. Eye examination was normal.

She was investigated with a provisional diagnosis of juvenile SpA with possible IBD . Blood investigations revealed Hb of 8gm/dL, with normocytic normochromic anemia, leukocytosis (16850/mm^3), thrombocytosis (471000/mm^3) and elevated ESR (88mm/hr). Renal and liver function tests were normal. Radiographs of cervical spine, chest and pelvis were normal. Stool microscopy and occult blood were negative. Mantoux was negative. Urine and stool cultures did not yield pathogens. Serology including HIV, Hepatitis B, RF and ANA were negative. HLA-B27 typing by flow cytometry was negative. Colonoscopy was suggestive of colitis with oedema in the caecum and ascending colon, and mucosal hyperemia over entire colon. No ulcerations, cobble stoning, polyps, strictures or abnormal vasculature noted. Multiple biopsies were taken. Visualized terminal ileum was normal. Histopathological examination showed mild congestion and dense lymphoplasmacytic infiltrate in the lamina propria. Mucosa was intact and crypts were normal. Features were suggestive of microscopic colitis – not otherwise specified (MC-NOS). She was started on oral naproxen (15mg/kg/d) and sulfasalazine (40mg/kg/d). With clinical improvement naproxen was stopped after eight weeks while sulfasalazine is being continued at half-dose. At nine months follow-up her hemoglobin is 10.8g/dL and ESR 24mm/hr.

DISCUSSION

Juvenile SpA, unlike adult disease, is predominant lower limb arthritis and enthesitis before axial or extra articular manifestations evolve, often with misclassification into oligoarticular juvenile rheumatoid arthritis [1,4]. There are no standardized criteria for diagnosis of SpA in children due to the rarity of the condition. The classification was an

extension of adult Amor and European Spondyloarthropathy Study Group (ESSG) criteria with most juvenile SpA coming under undifferentiated type. The International League of Associations for Rheumatology (ILAR) classification for juvenile idiopathic arthritis, does not specifically address children with SpA. In ILAR classification the dilemma of categorization of these diseases is dealt with by recognising enthesitis related arthritis, juvenile psoriatic arthritis and arthritis related to IBD as separate categories [1,4,5]. In the index case, gender, negative family history, onset primarily with axial arthropathy in the absence of peripheral enthesitis, and HLA-B27 negativity were unusual features.

The association between SpA and intestinal involvement is rarely described in children. In a case series of 31 children with axial/peripheral arthritis and gut involvement, classic IBD was seen in seven, and indeterminate colitis and lymphoid nodular hyperplasia of distal ileum in 12 each. All were HLA-B27 negative [6]. MC is a clinicopathologic term proposed by Lazenby and colleagues to distinguish it from mild IBD and infectious colitis associated arthritis. It describes specifically middle aged females with chronic diarrhea, normal or nonspecific colonoscopy and barium enema but with distinct histopathology characterized by intraepithelial lymphocytosis with mixed inflammatory infiltrate in the lamina propria of colon [2,7]. The subtypes of MC include collagenous, lymphocytic, minimal change, MC with giant cells, and MC-NOS. An increase in the inflammatory infiltrate with lymphocytes, eosinophils and plasma cells characterizes MC-NOS [8]. Concomitant autoimmune diseases including rheumatoid arthritis, celiac disease, thyroiditis, diabetes mellitus and asthma have been reported in 40-50% of adults. Arthritis in MC is peripheral, nonerosive and seronegative with few reports of SpA [3]. Differentiating infectious colitis and IBD is critical for management. In infectious colitis, there is surface mucosal damage, crypt abscess and neutrophilic infiltrate in lamina propria. In Crohns there are non caseating granulomas, transmural inflammation, fissures and fistula frequently affecting the terminal ileum and right colon. In ulcerative colitis, there is ulceration, crypt distortion, crypt abscess, mucin depletion, dense lymphoplasmacytic infiltrate and basal plasmacytosis [9]. Few reports indicate progression of MC to IBD [3]. Other than histopathology, the features against the diagnosis of IBD in our patient were age, gender, absence of growth failure, negative family history and HLA-B27, non specific colonoscopy and rapid therapeutic response. Oral budesonide is currently the treatment of choice in MC, but in its non-availability sulfasalazine is preferred prior to other systemic steroids. In our case, sulfasalazine was probably beneficial in arthritis also, independent to naproxen as previously she had received NSAIDs with no relief.

This report yet again substantiates the association between SpA and gut inflammation and the need to evaluate gut in chronic arthritis to achieve clinical remission. These group of children require long term follow-up for developing overt IBD or ankylosing spondylitis.

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