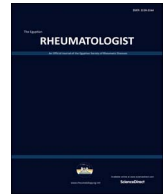




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Original Article

Frequency of axial spondyloarthritis in Tunisian patients with inflammatory bowel diseases

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ABSTRACT

Aim of the work: To determine the frequency, clinical and radiological features of axial spondyloarthritis in patients with inflammatory bowel diseases (IBD) and to characterize differences between patients with and without axial spondyloarthritis.

Patients and Methods: Patients included in this cross-sectional study were recruited from the Gastroenterology Department, University of Tunisia over six months. Sixty-four patients with IBD were questioned and examined for axial spondyloarthritis symptoms. Standard pelvic X-rays were performed for all and CT scans and MRI were done for some patients.

Results: There were 42 men (65.6%) and 22 women (34.4%) with a mean age of 47 ± 22 years. 32 patients (50%) had Crohn's disease, 31 had ulcerative colitis and 1 patient has undifferentiated colitis. The disease was confined to the colon among a half of patients with ulcerative colitis. Regarding Crohn's disease, all lesions were confined to the ileum and the colon. The mean IBD duration was 6.18 ± 7.2 years. The occurrence of axial spondyloarthritis was 26.5% (17 patients who were symptomatic in 16 cases). The bowel disease preceded rheumatic manifestations in all cases. Nine patients (14.1%) had isolated sacroiliitis. The patients with and without axial spondyloarthritis had similar sociodemographic, anthropometric characteristics, comorbidities and bowel disease particularities except a higher percentage of corticosteroids use ($p = .013$).

Conclusions: Due to the high frequency, an early diagnosis of spondyloarthritis in patients with inflammatory bowel disease by thorough clinical exam and standard pelvic X-rays should be recommended.

1. Introduction

Inflammatory Bowel Disease (IBD), a common chronic inflammatory disease of the gastro-intestinal tract, can be accompanied by a number of extra-intestinal manifestations (EIM) in multiple organ systems [1–3]. Rheumatologic disorders, described in 25–30% of patients, represent the most common EIM of IBD before skin, eye or hepatobiliary disorders [4] and can affect bone, joints and entheses. The articular and enthesic manifestations, which may be called spondyloarthritis [5–8], can sometimes be more worrying than the enterocolitis itself through the functional discomfort and the complications that they can generate. These spondyloarthritis may be axial and

constitute a group of chronic potentially disabling diseases that affect axial joints in addition to extra-articular manifestations such as anterior uveitis, cardiac abnormalities, apical fibrosis of lungs and IBD [9,10].

The frequency of axial spondyloarthritis (AS) in patients with IBD is very variable [11]. The aim of this study was to determine the frequency, clinical and radiological features of AS in patients with IBD and to characterize differences between patients with and without AS.

2. Patients and methods

This is a cross sectional study over six months between July and December 2015, conducted in a gastroenterology department of a

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university hospital, including 64 patients with established diagnosis of IBD. The diagnosis of the intestinal disease as well as its type was based on a bundle of clinical, radiological, endoscopic and histological arguments. We evaluated the patients' demographic features and intestinal disease characteristics. The medical history was obtained and a complete physical examination was performed in all patients. The symptoms of AS were recorded ('Buttocks pain', sciatica and back pain). Spine stiffness and sacroiliac abnormalities were searched. Standard X-ray of the spine and the pelvis were performed for all patients and were examined by 2 experienced rheumatologists. CT scans and MRI of the pelvis were not possibly performed for all the patients. Laboratory tests including erythrocytes sedimentation rate (ESR) and C reactive protein (CRP) were performed for all patients. The study of human leucocyte antigen (HLA) was performed in patients with suspected pelvic radiographies and/or low back pain in the physical examination. Crohn's Disease Activity Index (CDAI) [12] was used to evaluate the Crohn's disease (CD) activity and *Truelove et Witts* score was used to evaluate ulcerative colitis (UC) activity [13]. Assessment of SpondyloArthritis International Society (ASAS) criteria were used to classify AS in patients younger than 45 years old [14] and Amor's criteria were used in patients older than 45 years old [15]. Disease activity was assessed by the Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) [16] and the life quality by the Bath Ankylosing Spondylitis Functional Index (BASFI) [17]. The Bath Ankylosing Spondylitis Radiologic Index (BASRI) was calculated [18]. The study conforms to the 1995 Helsinki declaration, was approved by the Hospital Local Ethics Committee and all patients gave their informed consent prior to their inclusion.

2.1. Statistical analysis

The data were analyzed by Statistical Package for Social Science version 19 (SPSS corporation, USA). The data were presented as number and frequency and mean \pm SD [range]. Student's *t* test was used to compare groups for parametric data and Mann-Whitney tests for non-parametric variables. Fisher's exact test and chi-square test were used to compare qualitative variables. Results were considered significant at *p* value < .05.

3. Results

There were 42 men (65.6%) and 22 women (34.4%) with a mean age of 47 ± 22 years (22–80 years). Forty-seven patients (73.4%) were married and fifty-five (70.3%) lives in urban areas. Nineteen patients were unemployed (29.7%). Forty-two patients (65.6%) had no medical history. Eight patients had a family history of IBD. Smoking was noted in 32 patients (50%). Normal body mass index was noted in 48.4% of patients. Thirty-two patients (50%) had CD, 31 patients UC and 1 patient has undifferentiated colitis. The disease was confined to the colon among a half of patients with UC. Regarding CD, all lesions were confined to the ileum and the colon. The mean IBD duration was 6.18 ± 7.2 years (4 months-30 years). Forty-seven patients had at least one comorbidity. At the inclusion, the CD was inactive (CDAI < 150) in 100% of cases. The mean CDAI was 65.11 (3.39–125). Five patients with UC were in moderate activity. Corticosteroids were used in 50% of cases and immunosuppressive therapy in 90% of cases. Other EIM were present in 6 patients: uveitis in 4 patients, pericarditis in one case and skin injury in one case.

'Buttocks pain' was noted in 10 cases (15.6%). It was bilateral in 5 cases and inflammatory in 6 cases. The pain intensity according to visual analogue scale (VAS) was more than 50 mm in 9 cases. The sacroiliac mobilization was painful in 12 patients (18.8%). Sciatica was noted in 4 patients (6.3%) and was bilateral in 3 cases and inflammatory in 2 cases. The VAS was 50 mm for the 4 patients. Eleven patients (17.2%) had back pain which was diffuse in 7 cases, cervical in 3 cases and lumbar in one case. The mean VAS was 52 mm (40–80 mm). Physical examination revealed abnormalities in 19 patients (29.7%):

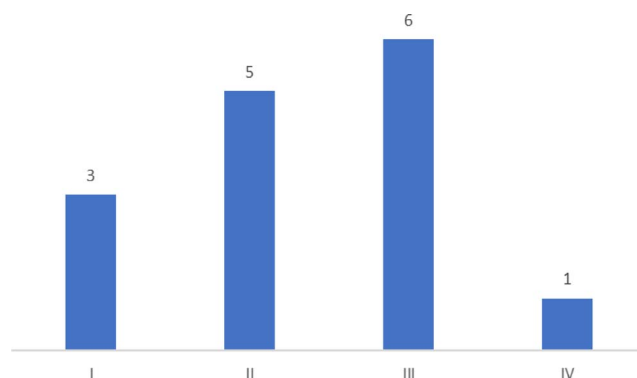


Fig. 1. Inflammatory bowel disease patients with axial spondyloarthritis classified according to the plain-xray stage of sacroiliitis.

cervical lordosis disappearance ($n = 5$), neck anterior projection ($n = 2$), dorsal hyperkyphosis ($n = 4$) and loss of lumbar lordosis ($n = 13$). Spinal mobility limitation was observed in 19 patients (29.7%). In X-ray, sacroiliitis was present in 15 cases (23.4%) and bilateral in 9 cases. The most frequent radiological stage was the third one (Fig. 1). The spine X-rays showed abnormalities in 4 cases (6.3%): Romanus spondylitis ($n = 1$), vertebral squaring ($n = 1$), syndesmo-phytes ($n = 4$). CT scan was performed in 15 cases and magnetic resonance imaging (MRI) in 5 cases. Results of CT scan and MRI are showed in Fig. 2. Elevated inflammatory blood tests were noted in 29 patients (45.3%) with a mean ESR of 29.6 mm (2–108 mm) and a mean of CRP of 13.6 mg/l (0–123 mg/l). HLA-B27 test performed in 18 cases, was positive in 2 cases. The diagnosis of AS was retained in 17 patients (26.5%). Nine patients had isolated sacroiliitis (14.1%). One patient had an asymptomatic AS. The IBD preceded the AS in the other cases with a mean duration of 4 years (1–14 years). The mean BASDAI was of 32.6 ± 25 (2–70) with an active disease (BASDAI ≥ 40) in 6 cases. The mean BASFI was of 39.7 ± 43 (0–89) with altered quality of life (BASFI ≥ 40) in 10 cases. The mean BASRI was 3.7 ± 2 (0–12). Patients with and without AS have similar demographic characteristics (Table 1). Comorbidities were not correlated with AS ($p = .09$). There was no association between smoking and AS ($p = .78$). There was no correlation between AS and the IBD type ($p = .13$), IBD duration ($p = .44$), IBD phenotype ($p = .07$), localization or extent of the intestinal inflammation ($p = .79$) and the presence of others EIM ($p = .69$). Intestinal disease characteristics were similar in the two groups except the frequency of patients who needed corticosteroids which was more elevated in patients with AS ($p = .013$).

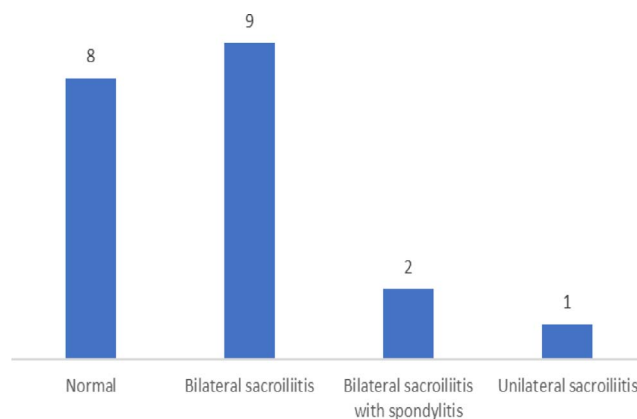


Fig. 2. CT scan and magnetic resonance imaging results among patients with inflammatory bowel diseases.

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