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Case Report

Pattern of Acute Arthritis in Seventeen Patients with Sarcoidosis

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Abstract: *Background:* Sarcoidosis is a multisystemic disease that most commonly affected organ is lung but other organs such as the liver, skin, eye and musculoskeletal system can be affected (1). The most common rheumatologic findings in sarcoid patients are arthritis that can be acute or chronic but acute form is most common (14). *Aim:* The aim of this retrospective study was analysis of acute inflammation of joints in 17 patients with sarcoidosis during 2 years from January 2010 to December 2012. *Subjects and Methods:* This is a retrospective study of sarcoidosis patients with acute onset inflammation in joints during two years from January 2010 to December 2012 that refers to rheumatologic clinic of Mazandaran University of medical sciences. Data were analyzed using the SPSS version 20. Variables analyzed include age, sex, presence of arthritis/periarthritis, the number of involved joints, symmetricity of involvement and kind of arthritis as inflammatory, non inflammatory or septic. *Results:* At these study 17 sarcoidosis patients with acute onset of joint inflammation refers to our rheumatologic clinic. All of patients were adults between 18 to 52 years old with median age of 36.8 years old. Six patients (35%) were male and eleven patients (65%) were female. Arthritis occurs in 13 patients (76%) and periarthrtis in 10 patients (58%). At 6 patients (35%), arthritis and periarthritis occurs simultaneously. The most commonly involved join was ankle in 10(58%) cases. Another involved joints were knee, wrist and MCPs in 2 patients (12%) for each ones. Mid foot involvements occurs in 3(18%) and MCPs in one (6%) patient. In seven (41%) patients, arthritis were monoarthicular andat anotherseven (41%) of patients arthritis were oligoathicular. Only in 3 (13%) cases, arthritis were polyarthicular. All of arthritis were inflammatory and only in one case septic arthritis occurs. In 9(53%) of patients, arthritis were symmetric and in 8(47%) of cases were asymmetric. *Conclusion:* Inflammation of joints including arthritis and periarthrtis are important findings in acute sarcoidosis and must be considered in these patients. Lower extremity joint arthritis especially in ankles and in symmetric fashion are common rheumatologic complications of this disease.

Keywords: Sarcoidosis, Arthritis, Periarthritis

1. Introduction

Sarcoidosis is a systemic inflammatory disorder characterized by the presence of noncaseating granuloma in affected organs. The etiology of sarcoidosis is unknown. [1].

The clinical manifestations of sarcoidosis are protean, and a diagnosis of sarcoidosis is often made by the exclusion of other diseases. Sarcoidosis can affect any organs in the body but lungs is most commonly affected [2].

Clinical presentation, natural history and biopsy of involved organs can confirm diagnosis [3].

The worldwide prevalence of sarcoidosis has been reported to be 1 to 10 cases per 100,000 population in most countries [3, 4]. The most common age in sarcoidosis is in 20 to 40 years old [5].

Two acute presentations of sarcoidosis including Löfgren's syndrome and Heerfordt's syndrome

Occurs in some patients. [6]

Arthritis is an acute presentation of sarcoidosis (Löfgren syndrome). Arthralgias occur in patients with chronic active sarcoidosis and chronic arthritis in sarcoidosis can result in joint deformities [7].

Tenosynovitis and periarticular inflammation occurs in sarcoidosis but less frequent than arthralgias or arthritis. Sometimes it is difficult to discern Periarthritis from true synovitis.

Other articular manifestations of sarcoidosis includ dactylitis, sacroiliitis, and bilateral heel pain [8].

2. Subjects and Methods

This retrospective study was performed at the BAGHBAN referral clinic of Mazandaran University of medical sciences during two years from January 2010 to December 2012. Seventeen sarcoid patients with acute arthritis refer to our clinic for further evaluation and management decision during this period for evolution. Their medical history were retrieved from the hospital's medical records department and each patient examined by a pneumatologist and rheumatologist. Patients included in this study were young to middle aged adults (18 to 52 years old). Diagnosis of the sarcoidosis confirmed by physical examination, radiographic findings, isotope scaning, biochemistry studies and in some patients tissue biopsy. Arthritis confirmed by painful limitation in active and passive movement of joint. Radiography, sonography and aspiration of joint performed in each case. Peirarthritis confirmed by physical examination and sonography of involved joint and in some patients by MRI. Cases with any kind of traumatic or congenital joint abnormalities or other known cause of arthritis or periarthritis were excluded. The presence of every medical disease that can produce arthritis or periarthritis also were excluded. Septic arthritis was diagnosed by aspiration of joint and culture of organism. The objective of this study was to determine the age, sex, presence of arthritis /periarthritis, and the number of involved joint, kind of arthritis and pattern of arthritis at these patients. Data were analyzed by using the SPSS version 20 soft-wares.

3. Result

A total of 17 patients with sarcoidosis and acute joint inflammation refer to BAGHBAN clinic for further evaluation during 2 years from January 2010 to December 2012. All of the patients were young to adults patients with ages between 18 to 52 years old (median: 36.8yers old). Eleven of patients (65%) were females and six of them were male (35%). [table1] shows the demographic profile of the patients. Thirteeen (76%) of patients had arthritis and ten (56%) of cases had periarthritis. In 6(35%) of cases arthritis occure with periarthritis in the same time. At this study, the most commonly involved joint was ankle at 10(58%) of patients. Knee involved in 2(12%) of cases. Involvement of wrist and MTPs also occurs in 2(12%) of cases separately. Three (18%) of patients had midfoot arthritis and one (6%) of patients involved with MCP joint inflammation. The pattern of joint inflammation was different in patients. In 7(41%) of patients, the arthritis was monoarthicular and in another 7(41%) of cases, the arthicular involvement was oligoarthicular (the number of involved joints was between 2-4 joints). Three (18%) of patients had polyarthritis clinical finding. The arthritis and periarthritis of patients at this study were inflammatory and only in one patient, septic arthritis was seen. In 9(53%) of patients, the arthicular involvement were symmetric and in 8(47%) of cases, arthritis were asymmetric.

Table 1. *Characteristics of inflamed joint in 17 patients with acute sarcoidosis.*

Case no	Age(years)	sex	arthritis	Periarthritis	location	Number of involved joints	Kind of arthritis	Symmetric arthritis
1	38	F	+	-	knee	1	inflammatory	-
2	41	M	-	+	ankle	2	inflammatory	+
3	50	F	+	+	ankle	1	inflammatory	-
4	33	M	+	+	wrist	1	inflammatory	-
5	29	F	+	-	midfoot	2	inflammatory	+
6	40	M	+	+	ankle	2	inflammatory	+
7	18	F	+	-	elbow	1	inflammatory	-
8	52	F	-	+	knee	1	septic	-
9	44	M	+	+	Ankle+midfoot	2	inflammatory	+
10	38	F	-	+	ankle	2	inflammatory	+
11	37	F	+	-	Wrist+MCPs	8	inflammatory	+
12	31	F	+	-	Ankle+MTPs	6	inflammatory	+
13	42	F	+	-	ankle	2	inflammatory	+
14	28	M	+	+	ankle	1	inflammatory	-
15	30	F	+	+	MTP	7	inflammatory	+
16	36	M	-	+	midfoot	2	inflammatory	-
17	40	F	+	-	ankle	1	inflammatory	-

4. Discussion

Sarcoidosis is an idiopathic multisystemic inflammatory diseasecharacterized by the presence of noncaseating granulomas in affected organs. According to study of Sharma and co-workers people of any age may be involved, but the median age of disease is 40 years [9]. At our study, the median

age for cases was 36.8 years old.

The prevalence of disease is slightly more common in women [9]. In our study 65% of patients was female and 35% were male.

Although any organ can be involved, the lungs are affected in most cases [10].

Extra pulmonary findings Including rheumatologic manifestations are common in sarcoidosis [11].

Approximately 25 percent of patients with sarcoidosis have an associated arthropathy [12, 13] and arthritis can be acute or chronic [14].

Inflammatory arthropathy is the most frequent and any joint may be involved.

According to study of visser and co-workers acute arthritis in sarcoidosis may present in isolation or as part of Lofgren's syndrome [14]. At this study, we don't determine the prevalence of arthritis or Lofgren syndrome in cases.

In the study of visser et al, ankles most commonly involve in acute sarcoidosis followed by other larger joints of lower extremity [14]. In our study, the most common involved joint was ankle (58%) followed bymidfoot arthritis in 18% of cases and knee, wrist and MTPs in 12% of patients and MCPs involvement in one patient.

According the study of Kaplan H. et al, the periarticular inflammation in sarcoidosis occur less frequently thanarthritis [7]. In our study arthritis occurs in 76% of cases and periarthritis occurred in 58% of patients. In 35% of patients, arthritis and periarthritis occurs at the same time.

According study of visser [14] and study of Glenna's A, et al [15], the arthritis of sarcoidosis is most often oligoarticular and the pattern of involvement is typically symmetrical. In our study 7 (41%) of patients were monoarthicular and in 3 patients (18%), they were polyarthicular. Only in 7 (41%) of cases, the pattern of arthritis were oligoarthicular and in 9 patients (53%) symmetric arthritis and in 8(47%) of cases asymmetric arthritis occurred. The reason for variations at different studies could be due to difference of age of cases, geographical and sample size.

5. Conclusion

One of the most common musculoskeletal manifestations in adult patients with sarcoidosis is acute arthritis and periarthritis. Inflammatory joint disease including arthritis and periarthritis commonly occurred in lower extremity joints especially in ankles but other joints such as midfoot, knee, wrist and MCPs and MTPs also occurs. The pattern of joint involvement was symmetric and asymmetric arthritis in equal percent. The most common type of arthritis was inflammatory. In comparison with another studies about arthritis at sarcoidosis, there was approximately similar results. The small sample size and inability to explore other risk factors also limited this work and its generalizability.

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