

# Sarcoid Arthropathy

## Abstract

Sarcoid Arthropathy is a common manifestation of a rare disease. Sarcoid Arthropathy, being a mimic of multiple inflammatory arthropathies such as rheumatoid arthritis and seronegative Spondyloarthropathies, is often misdiagnosed as one of them. Due to its common presentation one should keep a high suspicion of Sarcoid Arthropathy.

## Introduction

Sarcoidosis, a disorder of unknown etiology, is characterized pathologically by the presence of non-caseating granulomas in affected organs<sup>1</sup>. Genetic, environmental, and infectious etiologies have all been suggested. It is a multi-system disease typically affecting young adults. It most commonly affects the lungs (>90%), along with the skin, eyes, liver, and lymph nodes. This disorder commonly presents with one or more of the following three abnormalities: bilateral hilar adenopathy, pulmonary infiltrates and skin and/or eye lesions.

Articular manifestations of sarcoidosis may be specific or nonspecific. They may be the presenting feature of the disease. However, they may also occur late after onset of disease. Arthritis may be present in isolation or combined with other clinical manifestations.

Clinically, joint involvement is found in up to 14% of patients at presentation. On follow up it may be seen in up to 38% of patients [2]. At presentation, the frequency of clinical muscle and bone involvement is low (<1%), and is found in 5-13% of patients during follow-up [2].

Locomotor involvement is often subclinical or not clinically recognized because of non-specific symptoms in spite of a high prevalence on biopsy [3]. Secondary osteoporosis, due to glucocorticoid therapy is other locomotor sequelae of sarcoidosis [4].

Sarcoid rheumatic involvement is generally divided into acute and chronic types [2,4].

## Acute Arthritis

The acute polyarthritis most commonly involves ankles (90%), followed by other larger joints of the lower extremity, is oligoarticular and symmetrical. It may be often mistaken for reactive arthritis [5]. The arthritis may be migratory, intermittent or additive in time. It may be the presenting feature of sarcoidosis and can precede other manifestations by several months. It is generally accompanied by other signs of sarcoidosis, such as Löfgren's syndrome which is a triad of bilateral hilar lymphadenopathy, erythema nodosum and (peri) arthritis of large joints, particularly of the ankles [6-8].

In the acute stage, conventional plain radiographs of the symptomatic joints are often normal with osteoporosis and soft-tissue swelling seen in some cases [9]. Ultrasonography is

## Review Article

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a more useful imaging modality that often demonstrates joint effusion, synovial thickening and hypervascularity (on Doppler correlation) in these patients. Magnetic resonance imaging (MRI) is another useful investigation that often shows features of joint synovitis (synovial thickening and enhancement) and delineates the periarticular nature of inflammation at the ankle in Löfgren's syndrome [10].

## Chronic Arthritis

It can be many types as below

- A. Non deforming arthritis with granulomatous synovitis.
- B. Jaccoud's type deformity (nonerosive joint deformity).
- C. Joint swelling adjacent to a sarcoid bone lesion.
- D. Dactylitis (sausage-like swelling of one or more digits).
- E. Acute and chronic gouty arthritis, which can be seen in association with Sarcoid.

Chronic sarcoid articular involvement is rare affecting 0.2% of sarcoid patients [11,12]. Medium-sized and large joints are often affected symmetrically and a simultaneous tenosynovitis or dactylitis may occur. Dactylitis is often associated with well defined phalangeal cysts on conventional radiographs [9].

Joints frequently involved in chronic arthritis are ankles, knees, hands, wrist, and metacarpophalangeal and proximal interphalangeal joints, rarely, the sacroiliac and temporomandibular joints may also be affected. Plain radiographs may demonstrate non specific articular margin erosions and mild joint space narrowing. MR imaging is particularly useful in the setting of normal conventional radiography with strong clinical suspicion of sarcoid arthropathy. Periarticular features including tenosynovitis, tendonitis, bursitis, and synovitis are well depicted by MR imaging and point towards granulomatous arthritis [9]. However it is important to remember that MRI findings are not diagnostic and synovial or soft-tissue biopsy is essential to establish the granulomatous cause.

Jaccoud's deformity is characterized by hand radiographs demonstrating ulnar deviation and subluxation at the level of metacarpophalangeal joints. Unlike other forms of chronic sarcoid arthropathy, this deformity is distinguished by absence of marginal erosions; although characteristic "hook" shaped erosions may be rarely observed, similar to those seen in Systemic Lupus Erythematosus (SLE) and ankylosing spondylitis [13].

Rheumatoid arthritis is part of the differential diagnosis for chronic Sarcoid Arthropathy, and rheumatoid factor positivity occurs in 30% of these patients. Prognosis of chronic sarcoid arthritis is good, with periodic exacerbation and improvement with a good functional outcome [14].

### Treatment

NSAID's, Colchicine, Steroids, Methotrexate, Hydroxychloroquine and Tumour Necrosis Factor (TNF) blockers may be used depending on the severity and response.

### Conclusion

Differential diagnosis of Sarcoid Arthropathy should always be considered in patients of ankle arthritis.

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