Bilateral Sarcoid Arthritis Treated By Total Hip Replacement: A Case Report

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Abstract

Sarcoidosis is a multisystem disorder which rarely affects the musculoskeletal system. The presentation as chronic arthritis is even rarer and leads to significant disability in patients with large joint involvement, who already have a compromised respiratory reserve. We report a case of bilateral hip sarcoid arthritis treated by total hip replacement which led to a good functional outcome. Total hip replacement leads to significant lifestyle improvement by reducing the total energy expenditure involved in activities of daily living.

Introduction

Sarcoidosis is a disease of unknown etiology involving multiple organs usually lungs, lymph nodes, skin, eye and rarely musculoskeletal system. Osteoarticular manifestations of sarcoidosis may be specific or nonspecific. They may be the presenting feature or may occur late after onset, either isolated or combined with other clinical manifestations. Clinical features of joint involvement are found in 14% of cases at presentation, and up to 38% during follow-up [1]. The frequency of muscle and bone involvement at presentation is low (<1%), and is found in 5–13% of patients during follow-up [1]. Locomotor involvement is often subclinical or not clinically recognized because of mild or unspecific symptoms in spite of a high prevalence on biopsy, as shown for muscle involvement [2]. There are earlier several reports of large joint arthritis in this condition, but we believe this is the first report of a bilateral hip sarcoid arthritis treated by total hip replacement.

Case Report(s)

In 2001, a 40 year old house wife presented with complaints of backache, intermittent low grade fever, malaise, weakness and pain in joints predominantly involving hip joints since 4 years. She was being treated as a case of seronegative arthritis with only NSAIDS. She even had difficulty in performing daily activities. On general examination, she was found to have multiple erythematous maculopapular lesions on extensor surfaces (Fig 1A & B), which was being treated as psoriasis.

On local examination of the hip, she had a waddling gait with bilateral, fixed flexion deformity of 10° and fixed adduction deformity of 10°. There were no rotational movements possible. Radiographs showed bilateral concentric reduction of joint space with subchondral sclerosis without any osteophytes. The shape of the acetabulum and the femoral head were maintained(Fig 2).

A bilateral total hip replacement was planned for which a pre-anesthetic check up was undertaken. Chest radiographs (Fig 3) showed bilateral hilar adenopathy with fibrotic lung lesion, which was suspicious of sarcoidosis. To further evaluate a CT of thorax (Fig 4) was done which revealed mediastinal lymphadenopathy with interstitial tissue involvement.

The dermatology consultation was soughted for the skin lesions. The biopsy of the erythematous skin lesion showed non-caseating epitheloid granuloma. Kveim test was positive. These features were consistent with sarcoidosis. Laboratory investigations further revealed hemoglobin of 14.4 gm%, total leucocyte count of 11000/cc, Neutrophil-56, Lymphocytes-32, Eosinophil-8, Basophil-2, Monocyte-2. The blood film showed normocytic normochromic red blood cells. However the platelet count was raised. ESR was 22mm in first hour with random blood sugar value of 99mg/dl. Serum creatinine was 1.1 mg/dl. ASO titre and C-reactive protein levels were with in normal limits. Rhematoid factor and Anti Nuclear Antibody were also negative. Anti-double-stranded DNA antibody was 3.6-IU/ml. The patient was diagnosed as a case of sarcoidosis affecting bilateral hips. Considering the morbidity of the patient, bilateral total hip replacement was planned.

No other medical treatment was given preoperatively. Patient underwent bilateral, staged uncemented total hip replacement (Fig 5), three months apart. After 6 months of surgery she was allowed to walk without any aids. At the latest follow up (after 8 years), the patient had a satisfactory functional outcome with
normal daily activities.

Discussion

Sarcoidosis is a disease of unknown etiology involving multiple organs usually lungs, lymph nodes, skin, eye and less frequently the musculoskeletal system. The disease commonly affects between the ages of 20 to 40 years. It has a wide spread geographic distributions, but is relatively rare in the Southeast Asians. Bone lesions are observed in only 5% of sarcoidosis patients and joint manifestations, including arthritis and periarthritis, occur in 14–38% of patients [1, 3–6]. Arthralgias are even more common (70%) [1]. Sarcoid rheumatic involvement is generally divided into acute and chronic types [1, 3–6]. The most common form of joint involvement is an acute polyarthritis/periarthritis. The arthritis may be migratory, intermittent or additive in time, and can precede other manifestations of sarcoidosis by several months. These clinical presentations can, therefore, resemble reactive arthritis [7], rheumatoid arthritis or even spondylarthropathies [5]. More commonly, however, it is non-migratory and accompanied by other signs of sarcoidosis [1], known as the Lofgren's syndrome [7–9]. Chronic sarcoid articular involvement is rare and appears to affect only 0.2% of sarcoid patients [10, 11]. The chronic sarcoid joints usually present with other complications of sarcoidosis like, chronic cutaneous sarcoidosis [5] and are common in black patients [4, 5]. Medium-sized and large joints are often affected symmetrically and a simultaneous tenosynovitis may occur. Some cases have been described with severe destructive arthropathy requiring total arthroplasty [12]. Synovial biopsy shows non-caseating granulomas. For a typical case, the diagnosis of sarcoidosis is made by a combination of clinical, radiological and histological findings. In a young adult with constitutional complaints, respiratory symptoms, erythema nodosum, blurred vision and bilateral hilar adenopathy the diagnosis is almost always sarcoidosis [13, 14]. The ESR is raised and the kveim test may be positive. In cases of acute sarcoid arthritis, many times the diseased joint responds to NSAID with cold packs and training physical rehabilitation programme. [4]. The outcome of articular involvement is generally favourable as recovery is uneventful, generally within 1–6 months [4]. According to open label studies, sarcoid arthritis has also been treated efficaciously by systemic glucocorticoids and colchicine (oral or intravenous) [10]. Periarthritis is often responsive to rest, cold application and NSAIDs, whereas glucocorticoids are generally not needed nor recommended. A chronic destructive synovitis may need treatment with glucocorticoids intraarticularly or systemically, and, in the latter case, is probably best combined with methotrexate or azathioprine, though firm evidence from randomised controlled trials is lacking [1, 3–6]. Possibly, there is an indication for an anti-tumour necrosis factor (TNF)-a strategy in selective cases with chronic destructive arthritis in the near future. But the mechanical problems of severe destructive arthritis of major joints of lower limb like hip joint challenge the usual activities of daily living by restricting the mobility of the individual. The energy expenditure involved in performing routine activities dramatically increases in such patients, who already have a poor respiratory reserve due to the interstitial lung disease. The quality of life improves dramatically in most of the arthritic patients after the joint replacement surgery [15, 16, 17]. The present case is doing well even after eight years of total hip arthroplasty.

Conclusion

This case highlights the fact that there should be a high index of suspicion in any young female patient presenting with non specific arthritis, towards the possibility of sarcoidosis. Sarcoidosis can be treated effectively if diagnosed early in the course of the disease. A planned arthroplasty at appropriate time can significantly improve the lifestyle of patients suffering from chronic destructive arthritis.

Abbreviations(s)

NSAID: Non-Steroidal Anti-Inflammatory Drugs
CT: Computed Tomography
ESR: Erythrocyte Sedimentation Rate
ASO: Anti-streptococcal 'O' Antibody titer

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Authors contribution(s)

BKSS and RS managed the patient and performed the surgery. SD collected the data of the patient. NT reviewed the literature. SD, SKT and NT prepared the manuscript. All authors have read the article and approved.
References

17. Schmalzried TP, Wessinger SJ, Hill GE, Harries WH: The screw Fixation: five years radiographic
Illustrations

Illustration 1

Multiple erythematous maculopapular lesions over extensor aspect of elbow and knee joints

Illustration 2

Anteroposterior view of pelvis showing bilateral concentric reduction of joint space with subchondral sclerosis without any osteophytes
Illustration 3

Chest radiograph showing bilateral hilar adenopathy with fibrotic lung lesion

Illustration 4

CT of thorax revealing mediastinal lymphadenopathy with interstitial lung involvement
Illustration 5

Post-operative radiograph after total hip replacement showing well aligned components
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