

*Case Report*

## **A Case of Eosinophilic Myositis in a Patient of Rheumatoid Arthritis - Rare Entity**

Tarun Sharma<sup>1</sup>, Aradhna Sharma<sup>2</sup>, Anuradha Sood<sup>3</sup>, Dheeraj Kapoor<sup>4</sup><sup>1</sup>Registrar, Department of Medicine, RPGMC Kangra at Tanda, HP, India.<sup>2</sup>Registrar, Department of Pharmacology, RPGMC Kangra at Tanda, HP, India.<sup>3</sup>Associate Professor, Department of Microbiology, RPGMC Kangra at Tanda, HP, India.<sup>4</sup>Professor and Head, Department of Medicine, RPGMC Kangra at Tanda, HP, India.

Corresponding Author: Aradhna Sharma

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### **ABSTRACT**

A 48 yr old woman was admitted with difficulty in walking along with joint pains. Laboratory data indicated peripheral eosinophilia with skeletal muscle infiltration along with rheumatoid arthritis. The diagnosis of eosinophilic myositis was made after biopsy of vastus lateralis. Treatment with prednisolone resulted in marked clinical and laboratory improvement. This is a rare case report of eosinophilic myositis associated with rheumatoid arthritis.

**Key words:** eosinophilic myositis, peripheral eosinophilia, rheumatoid arthritis.

### **INTRODUCTION**

Eosinophilic myositis (EM) is an infrequent form of inflammatory disease associated with peripheral blood, bone marrow and /or tissue eosinophilia. Although the etiology is unknown, it may be associated with intake of drugs or products which contain L-tryptophan and with tumors. <sup>(1)</sup> The diagnosis fundamentally is histological after muscle biopsy. Very few cases are reported in literature. In our case eosinophilic myositis occurred in a patient of rheumatoid arthritis with marked eosinophilia which has not been described in literature before.

### **CASE REPORT**

48 year old woman, a resident of Kangra district of Himachal Pradesh was admitted in our hospital with history of difficulty of walking and weakness of all the four limbs for last 3 months. Initially the patient had difficulty in walking which was

more Prominent on climbing up and down the stairs. The weakness progressed to a state that she was not able to walk without support. She was also unable to get up from sitting posture. She also had diffuse myalgias along with weakness. Her past history revealed to have been suffering from symmetrical large and small joint involvement for the last two years. She was diagnosed to have rheumatoid arthritis previously from another medical centre. For last 6 months she was on no drug therapy for rheumatoid arthritis. She had no history of rhinitis, pruritus, atopic diseases or drug allergies. She had no history of photosensitivity and Reynaud's phenomenon. Her appetite was normal and there was no history of weight loss. There was no history of sensory symptoms and no bladder involvement.

On examination she was under weight with BMI of 18. There was marked proximal muscle weakness of both the arms

and legs. There was generalized wasting of all the group of muscles. Deep tendon reflexes were normal. Cardiovascular, respiratory and abdominal examination was normal. On investigations her Hemoglobin was 8 gm/dl and peripheral smear revealed normocytic normochromic anemia. Her total leukocyte count was 31,300 /cu mm with eosinophils of 86% in mature state (Fig 1). Her Bone marrow revealed marked eosinophilia and excluded acute or chronic hematological malignancy. Her Erythrocyte sedimentation rate was 50 mm in 1<sup>st</sup> hour. Her platelet count was 190,000/mm<sup>3</sup>. Her creatinine kinase was 990 IU/ml. Serum creatinine, urea, bilirubin and liver enzymes were all within normal limits. Rheumatoid factor was positive and anti CCP antibodies were positive. The full antibody screen including antinuclear antibody, extractable nuclear antigens, and cytoplasmic antinuclear cytoplasmic antibody (CANCA) and perinuclear ANCA (PANCA) were all negative. Chest X-ray was normal and the X-ray of hands revealed periarticular osteopenia. Echocardiography was normal. ECG was normal. Pulmonary function tests on spirometry were normal. EMG showed a myopathic pattern. The muscle biopsy from the left quadriceps muscles showed marked endomysial and perivascular eosinophilic infiltrates. It also revealed histiocytic and giant cells with degenerative and regenerative changes consistent with giant cell myositis (Fig 2). No parasite was seen.

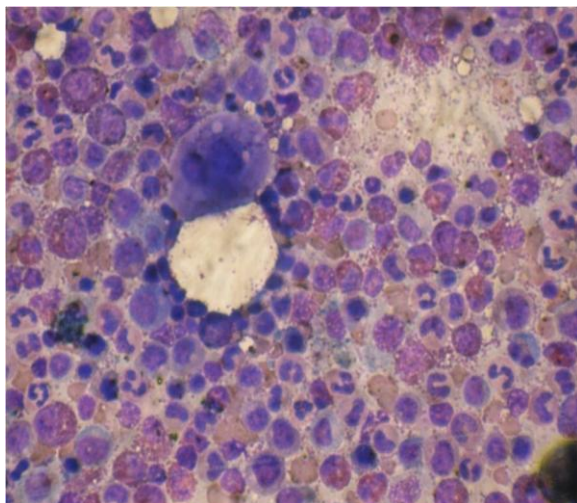


Figure 1: Peripheral Eosinophilia

The diagnosis of eosinophilic myositis with rheumatoid arthritis was considered and patient was started on oral prednisolone (40 mg /day). There was a prompt improvement of clinical and laboratory abnormalities including normalization of CPK and eosinophilic count after 2 weeks of therapy. The steroids were subsequently tapered. Methotrexate was added. She is asymptomatic for muscle weakness and joint pains on follow up.

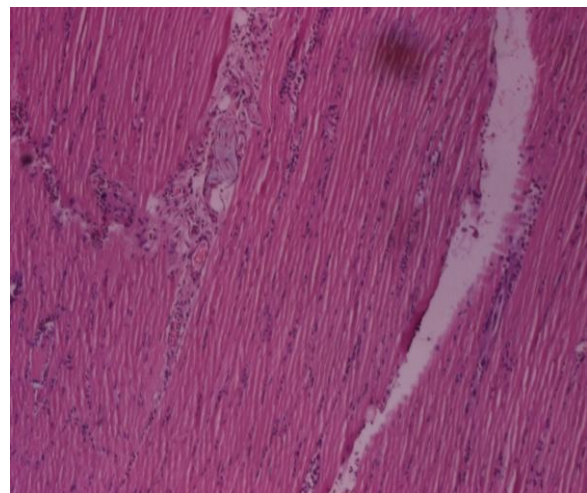


Figure 2: Eosinophilic infiltration of muscle seen on muscle biopsy

## DISCUSSION

Eosinophilic myositis is infrequent in humans. Clinical manifestations include muscle pain, cramping, tenderness, weakness of upper and lower limbs, and associated arthralgias and arthritis. Laboratory investigations show eosinophilia, an increase in ESR, positive RF and increased CPK. Eosinophilic myositis is believed to be classified into a disease entity different from other inflammatory myopathies as histopathological findings of eosinophilic myositis are characterized by marked infiltration of eosinophils (Fig: 2). Before reaching the diagnosis of eosinophilic myositis other causes of marked eosinophilia needs to be ruled out. In our patient neither the stool examination nor the muscle biopsy revealed any evidence of parasitic infection. Bone marrow biopsy did not reveal any granulomas or invasive microorganisms. As there was no evidence

of cardiac involvement and there was predominant involvement of muscle hence possibility of hypereosinophilic syndrome was not entertained. Churg Strauss syndrome was not considered as there was no evidence of lung involvement. Eosinophilic myalgia syndrome (EMS) presents findings which are histologically similar to EM. However presence of myositis, increase in levels of CPK and positive response to treatment made us exclude EMS.

Eosinophilic Myositis (EM) is a rare form of myositis with a favorable prognosis. Pathogenesis of eosinophilic myositis is not fully understood. Eosinophils contain cytotoxic protein granules such as major basic proteins (MBP), eosinophil peroxidase, and eosinophil cationic protein. In these granules MBP is thought to be major candidate for muscle destruction induced by infiltrating eosinophils. Peripheral eosinophilia is a recognized entity in rheumatoid arthritis. <sup>(2)</sup> It is associated with increased disease activity and use of disease modifying agents. However the relationship between tissue eosinophilia and RA is unclear. <sup>(3)</sup> RA has been associated with eosinophilic pneumonia, eosinophilic fasciitis, and

cutaneous eosinophilic vacuities. <sup>(4)</sup> Eosinophilic myositis has never been described till date with rheumatoid arthritis. The association of eosinophilic myositis with rheumatoid arthritis is a rarity and may probably reflect on the autoimmune etiology of this disease.

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