

## A Case of Myelofibrosis-Related Arthropathy: A Rare and Underrecognized Entity

**Authors :** Geum Yeon Sim, Jasal Patel, Anand Kumthekar, Stanley Wainapel

**Abstract :** A 65-year-old right-hand dominant African-American man, formerly employed as a security guard, was referred to Rehabilitation Medicine with bilateral hand stiffness and weakness. His past medical history was only significant for myelofibrosis, diagnosed 4 years earlier, for which he was receiving scheduled blood transfusions. Approximately 2 years ago, he began to notice stiffness and swelling in his non-dominant hand that progressed to pain and decreased strength, limiting his hand function. Similar but milder symptoms developed in his right hand several months later. There was no history of prior injury or exposure to cold. Physical examination showed enlargement of metacarpophalangeal (MCP) and proximal interphalangeal (PIP) joints with finger flexion contractures, Swan-neck and Boutonniere deformities, and associated joint tenderness. Changes were more prominent in the left hand. X-rays showed mild osteoarthritis of several bilateral PIP joints. Anti-nuclear antibodies, rheumatoid factor, and cyclic citrullinated peptide antibodies were negative. MRI of the hand showed no erosions or synovitis. A rheumatology consultation was obtained, and the cause of his symptoms was attributed to myelofibrosis-related arthropathy with secondary osteoarthritis. The patient was tried on diclofenac cream and received a few courses of Occupational Therapy with limited functional improvement. Primary myelofibrosis (PMF) is a rare myeloproliferative neoplasm characterized by clonal proliferation of myeloid cells with variable morphologic maturity and hematopoietic efficiency. Rheumatic manifestations of malignancies include direct invasion, paraneoplastic presentations, secondary gout, or hypertrophic osteoarthropathy. PMF causes gradual bone marrow fibrosis with extramedullary metaplastic hematopoiesis in the liver, spleen, or lymph nodes. Musculoskeletal symptoms are not common and are not well described in the literature. The first reported case of myelofibrosis related arthritis was seronegative arthritis due to synovial invasion of myeloproliferative elements. Myelofibrosis has been associated with autoimmune diseases such as systemic lupus erythematosus, progressive systemic sclerosis, and rheumatoid arthritis. Gout has been reported in patients with myelofibrosis, and the underlying mechanism is thought to be related to the high turnover of nucleic acids that is greatly augmented in this disease. X-ray findings in these patients usually include erosive arthritis with synovitis. Treatment of underlying PMF is the treatment of choice, along with anti-inflammatory medications. Physicians should be cognizant of recognizing this rare entity in patients with PMF while maintaining clinical suspicion for more common causes of joint deformities, such as rheumatic diseases.

**Keywords :** myelofibrosis, arthritis, arthralgia, malignancy

**Conference Title :** ICPCMPM 2023 : International Conference on Palliative Care Medicine and Pain Management

**Conference Location :** Istanbul, Türkiye

**Conference Dates :** June 22-23, 2023