MULTICENTRIC RETICULOHISTIOCYTOSIS: A CASE REPORT OF A RARE DISEASE

Rebecca Corbett, DO; Wasim Nasir, MD; Reginald Sandy, DO; Jana Hatahet

Medical Education and Department of Internal Medicine, Ascension Genesys Hospital, Grand Blanc, MI

INTRODUCTION

Multicentric Reticulohistiocytosis (MRH) is a rare non-Langerhans cell histiocytosis (N-LCH) that is insidious in onset with heterogenous clinical manifestations that often go undiagnosed or misdiagnosed for as long as 2 years [1].

The characteristic disease course is the following:

• Symmetric erosive polyarthritis involving DIP joints > PIP joints, CMC, MCP, carpal bones and large joint involvement of the knees and shoulders.

•Eruptive papulonodular rash distributed along the dorsal surfaces of the fingers, hands, face, and upper extremities.[1,2]

•MRH is strongly associated with malignancy and autoimmune disease in 25% and 15% of reported cases, respectively. [3]

•We present a case involving a 62 year old male who presented for a papulonodular skin rash and joint pain, which was later determined to be an unusual and isolated case of MRH.

CASE PRESENTATION

A 62 year old Caucasian male with a past medical history of ventricular fibrillation status post automatic implantable cardioverter-defibrillator and a family history of Hashimoto's disease in his sister was referred to our dermatology clinic for a 6 month history of an eruptive papulonodular rash involving his face, posterior back, dorsal surfaces of his bilateral hands and fingers. He reported a 1 year history of symmetric polyarthralgia of the small joints of his hands, wrists, knees and shoulders, which was unrelieved by conservative measures. He also endorsed proximal weakness of arms, shoulders, lower extremities and decreased grip strength. He reported intermittent swelling of bilateral small joints of hands and wrists as well as his knees. He had unintended weight loss of 10 lbs with intermittent dysphagia to solids.

•Labs were notable for elevated ESR/CRP, mild hyperlipidemia, and normocytic anemia

•Hand radiographs demonstrated symmetric, erosive, deforming polyarthritis of bilateral carpal joints, 1st CMC, proximal DIP joints 2-5, left worse than right with widening of joint spaces

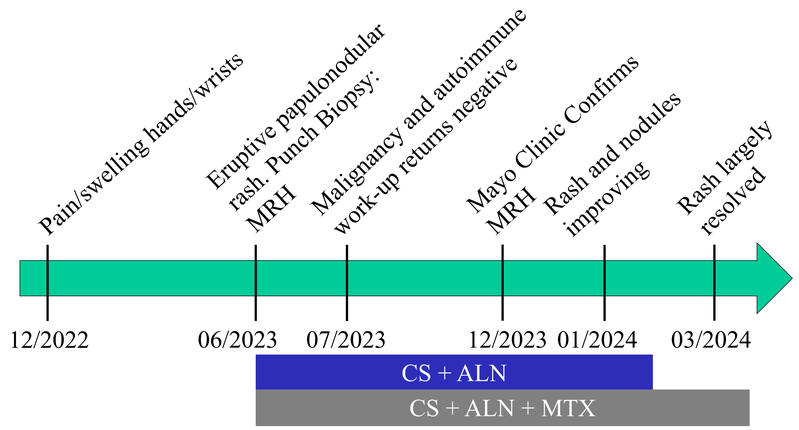
•Punch Biopsy of Left 4th dorsal MCP papule showed unencapsulated infiltration of dermis by epithelioid histiocytes with ground glass cytoplasmic quality. A few giant cells are present. The cellular infiltrate extends into the deep dermis. These findings are characteristic for MRH.

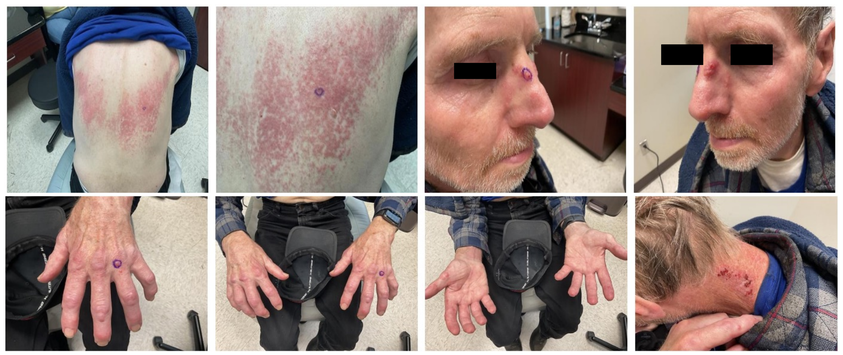
•Staining was positive for CD163/CD68(KP1)/CD14/FactorXIIIa/ cyclin D

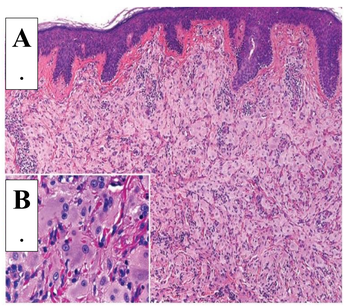
•Comprehensive cancer screening including PET-CT scan was unremarkable. Extensive autoimmune serology and vasculitis markers were negative.

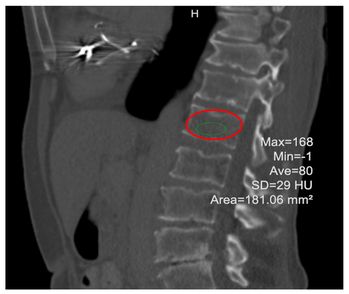
•Increased metabolic activity was noted on PET-CT in all joints correlating with patient's arthritic pain.

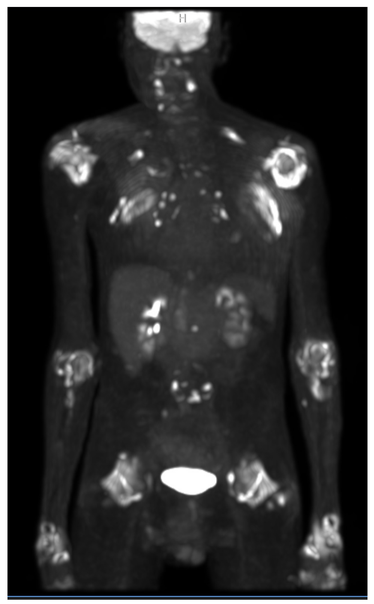
•Second opinion and repeat work-up at The Mayo Clinic confirmed the diagnosis of MRH and excluded malignancy. Mayo Clinic was in agreement with the treatment plan: oral corticosteroids (CS), methotrexate (MTX), alendronate (ALN) with regular surveillance.

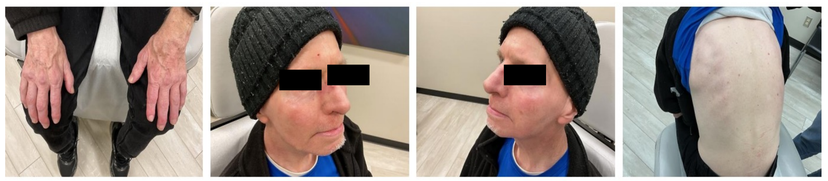












DISCUSSION

•MRH is an N-LCH affecting skin, liver, kidney, lungs with osteoclast-like histiocytes. [3] Hallmarks include rapidly progressive destructive polyarthritis followed by eruptive rash. Early recognition is critical to prevent progression to arthritis mutilans[1-3]

•Histiocytic infiltration across organ systems is common; pulmonary (effusions, hilar adenopathy), cardiac (myocardial infiltration, constrictive pericarditis), dysphagia (laryngeal involvement), splenomegaly, PUD have been described [4].

•There are no guidelines on treatment, which is largely empiric. First-line treatment with a combination of high-dose oral CS and MTX with or without bisphosphonate (Alendronate; ALN) is typical. [1-4]

•Malignancy and autoimmune disease are prevalent with MRH; often discovered concomitantly, or developing after diagnosis. Malignancy would have gone undetected by age appropriate screening in most cases. [2] PET-CT scans are recommended for ruling out malignancy. [2]

•Definitive diagnosis is skin biopsy and immunohistochemistry staining.CD68+ has been suggested as an essential criterion for MRH [1-4]

•Remission typically occurs with or without treatment after an average of 8 years of waxing/waning disease course. Average timespan from onset of joint pain to skin rash is 3 years [4].

•Our patient presented with a disease course typical for MRH (including lab findings); destructive polyarthritis and inflammation preceding the development of nodules on DIPs and a coalescing papulonodular rash. Nodules on nasal ala are considered pathognomonic of the disease, which our patient had.[1-2]

•Cancer screening with EGD, colonoscopy, PSA, and PET-CT scan were negative but showed hilar adenopathy. Mild anemia, elevation in ESR, and HLD were consistent with literature. Osteoporosis was present. Dysphagia is likely related to laryngeal involvement of MRH.

•There was improvement after starting treatment. Future endeavors include tempus testing, consideration of initiating anti-TNF medication, and surveillance.

TEACHING POINTS

•Initial labs are bland: mild elevation ESR, anemia, HLD are most common.

•Often mistaken for rheumatoid arthritis (RA), gout, sarcoidosis, and psoriatic arthritis or dermatomyositis

•Skin biopsy results can easily distinguish MRH from sarcoidosis or other diseases.

•Essential to rule out malignancy and autoimmune disease at outset

•1st line treatment: high-dose po CS + MTX + bisphosphonate.

• Refractory: anti-TNF agents

•Consider MRH when a patient presents with inflammatory arthritis type symptoms

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