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Case Report

Jaccoud's Arthropathy and Mitral Stenosis: a Complex Interplay in a Patient with Systemic Lupus Erythematosus

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ABSTRACT

Jaccoud's arthropathy is a painless rheumatological condition characterized by non-erosive joint abnormality. Rheumatic heart disease has been rarely associated with Jaccoud's arthropathy. A case of a young patient with a history of severe shortness of breath and joint deformity diagnosed as systemic lupus erythematosus (SLE) and mitral stenosis along with Jaccoud's arthropathy has been described. This case highlights the importance of the complex association of Jaccoud's arthropathy and rheumatic heart disease and its management.

Keywords: Jaccoud's Arthropathy, Rheumatic Heart Disease, Mitral Stenosis.

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INTRODUCTION

Jaccoud's arthropathy, a rheumatologic condition usually associated with systemic lupus erythematosus (SLE), offers special complications when combined with mitral stenosis, a heart valve ailment. Jaccoud's arthropathy is seen in 4.2% of patients with rheumatic heart disease and the present case study delves into the delicate synergy among these illnesses, offering insight into the complicated symptoms that result from the confluence of rheumatic and cardiovascular systems.[1-3]

Jaccoud's arthropathy is distinguished by non-erosive, reducible joint abnormalities, and its relationship with heart valve problems, albeit rare, raises fascinating diagnostic and therapeutic issues. Mitral stenosis, a complication of chronic rheumatic heart disease, develops as a narrowing in the mitral valve orifice, aggravating the clinical condition significantly.[4,5]

This case report adds to the comprehension of how to manage patients with Jaccoud's arthropathy and mitral stenosis, highlighting the importance of a full understanding of the dynamics implicated in these unique diseases. The study highlights the complexity of dual-pathology presentations and emphasizes the significance of a comprehensive approach to patient therapy, taking into account the complicated connections between the rheumatologic and cardiovascular systems.

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CASE REPORT

A 32-year-old female patient diagnosed with systemic lupus erythematosus (SLE) came to our department with acute dyspnoea categorized under New York Heart Association (NYHA) Class-4. The patient's early symptoms were fever, joint discomfort, mouth ulcers, and weight loss, which led to an SLE diagnosis based on positive anti-RO antibodies along with low C3/C4 complement levels. At the same time, haematuria necessitated a kidney biopsy, which revealed glomerulonephritic characteristics. At that moment in 2015, the patient had induction treatment with mycophenolate mofetil and azathioprine.

The patient had unexplained dyspnea throughout the course of her condition, prompting echocardiography in 2015, which revealed mild mitral stenosis with a 2 cm2 area. Around the same time, she was diagnosed with Jaccoud's arthropathy with the characteristics of swan neck deformity, ulnar deviation, painless subluxations, and joints laxity. Figure-1 and Figure-2 show hyperextension of proximal interphalangeal (PIP) joint and flexion of distal interphalangeal (DIP) joint in both fifth fingers signifying swan neck deformity with no erosions.

Following relapses in 2016, the Euro Lupus regimen was initiated with maintenance medication, with this treatment course continuing until 2022. At this point, the patient was complaining of severe dyspnea, and echocardiography indicated a considerable advancement of mitral stenosis with an area decreased to 0.62 cm^2 and Wilkin's score of 7, as

well as a dilated left atrium and severe pulmonary hypertension. There was also evidence of Tricuspid stenosis with an area of 1.7 cm^2 and pressure half-time (PHT) of 186 msec.

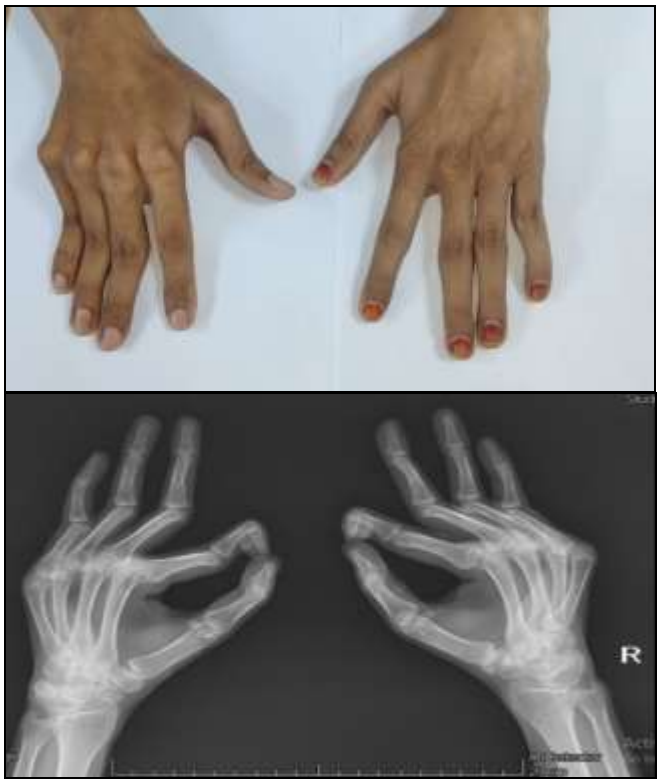

Figure-1 and Figure-2: Bilateral Swan Neck Deformity

Percutaneous transluminal mitral commissurotomy (PTMC) was offered and successfully performed using a 26 mm SYM balloon to extend the mitral valve area to 1.89 cm post-procedure. Follow-up evaluations revealed no significant mitral regurgitation and an area of 1.92 cm2, and the patient remains asymptomatic for dyspnoea to date. This case emphasizes the complicated link between SLE, Jaccoud's arthropathy, and mitral stenosis, underlining the need for a multidisciplinary approach to properly handle such complex presentations.

DISCUSSION

Jaccoud's arthropathy, a specific musculoskeletal symptom related to systemic lupus erythematosus (SLE), demonstrates a complicated interaction among joint abnormalities and other systemic signs. This case report describes a complicated combination of Jaccoud's arthropathy, mitral stenosis, and systemic lupus erythematosus (SLE). Exploring this complex circumstance in context with recent literature yields important insights.

Recent work, notably the one conducted by Santiago *et al*., digs into the epidemiology, pathophysiology, clinical characteristics, and therapy of Jaccoud-type lupus arthropathy, offering significant insight into the complexities of this disorder.[6] Furthermore, investigations by Chen *et al*., and Houser et al. emphasize the link between Jaccoud's arthropathy and heart valve disease, underlining the importance of comprehensive knowledge and multidisciplinary treatment in these sorts of cases.[7,8]

Atta *et al*., discovered a link among mitral stenosis and Jaccoud's arthropathy in SLE patients, indicating a possible link between valvular heart disease and rheumatic diseases, which is consistent with our findings.[9] Additionally, the research emphasizes the importance of a holistic strategy, since rheumatologic and cardiovascular issues overlap.

In our case, the effective use of percutaneous transluminal mitral commissurotomy (PTMC) coincides with Park *et al*.,'s study on valvular heart disease procedures in patients with arthropathies, underscoring the shifting landscape of therapeutic choices.[10] This example contributes to the ongoing discussion of managing complicated presentations, emphasizing the importance of teamwork in negotiating the intricacies of coexisting autoimmune and cardiovascular illnesses.

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Authors Contribution

Following authors have made substantial contributions to the manuscript as under:

AUH & AM: Conception, study design, drafting the manuscript, approval of the final version to be published.

AM & MWH: Data acquisition, data analysis, data interpretation, critical review, approval of the final version to be published.

WAL & MR: Conception, data acquisition, drafting the manuscript, approval of the final version to be published.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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