IJMPR 2023, 7(7), 65-67

International Journal of Modern Pharmaceutical Research

www.ijmpronline.com

ISSN: 2319-5878
IJMPR
Case Report

SJIF Impact Factor: 5.273

CASE REPORT ON RHUPUS SYNDROME

Mohamed Yasir H.*[1], Reshma Babu[2], Dr. Dhanya Dharman[3], Prof. Dr. Shaiju S Dharan[4]

[1,2]Pharm D Intern (Department of Pharmacy Practice, Ezhuthachan College of Pharmaceutical Sciences, Marayamuttom, Thiruvananthapuram, Kerala, India).
[3]Associate Professor, (Department of Pharmacy Practice, Ezhuthachan College of Pharmaceutical Sciences, Marayamuttom, Thiruvananthapuram, Kerala, India).
[4]Principal/HOD (Department of Pharmacy Practice, Ezhuthachan College of Pharmaceutical Sciences, Marayamuttom, Thiruvananthapuram, Kerala, India).

Received on: 25/04/2023
Revised on: 15/05/2023
Accepted on: 05/06/2023

***Corresponding Author**
Mohamed Yasir H.
Pharm D Intern (Department of Pharmacy Practice, Ezhuthachan College of Pharmaceutical Sciences, Marayamuttom, Thiruvananthapuram, Kerala, India).

ABSTRACT

Rhupus is an overlapping syndrome that shares characteristics with both SLE and RA. It is most often poorly described and undiagnosed condition. It usually affects most part of the body with inflammatory changes. Young women are more likely than men to develop this disease. Rhupus arthritis's natural course resembles that of RA and can advance to the characteristic inflammatory erosions, deformations, and disability. The diagnosis is confirmed by the presence of specific antibodies and immune complexes. It is further supported by hematological abnormalities, imaging studies and radiological findings. The treatment requires expertise from various specialities.

KEYWORDS: Rhupus, SLE, RA.

INTRODUCTION

SLE and RA are two different autoimmune conditions characterized by contrasting features. When an overlapping features of SLE and RA coexist in a patient the condition is referred to as Rhupus Syndrome. Rhupus is a rare, poorly diagnosed and most often neglected condition indicated by the involvement of hallmarks from both SLE and RA. The sle involvement in rhupus are less severe and it includes predominantly hematological abnormalities. The exact etiopathogenesis of Rhupus remain a mystery till now. But with some limited studies we can attribute the role of genetic, immunological, hormonal and environmental factors in the advancement of the disease. Rhupus normally affects bones, soft tissues, blood vessels, heart, kidney and lymphoreticular system.[1]

Rhupus is a rarely reported condition worldwide, which highlights our approach.

CASE REPORT

A 22 year old girl brought to the OP department with the complaints of oral ulcers and severe abdominal pain for 4 days. She initially took treatment from a local hospital but nor pain relieved and the ulcers got worsened. She had a history of polyarthritis for the past 3 months, on ayurvedic medications. No history of fever, abdominal distention, altered bowel habits, dysuria or oliguria. And no family history of similar complaints.

On physical examination the patient was found to be conscious, oriented, moderately built and obeying to commands. On arrival the pulse rate and blood pressure of the patient was noted as 79 beats/ minute & 120/80 mmHg respectively. On systemic examination the parameters of cardiovascular system, respiratory system, nervous system and per abdomen are found to be normal.

She had moderate pallor and bilateral pitting pedal edema. Her initial laboratory data showed declined Hemoglobin, thrombocytopenia, raised ESR, normal WBC counts and renal status. The liver function test showed hyperbilirubinemia, elevated liver enzymes and severe hypoalbuminemia. Plenty of pus cells found on urine routine examination. The physician started on IV antibiotics and supportive medications.

On further evaluation, the investigations revealed dimorphic anemia and mild leukopenia with relative neutrophilia, a positive anti-CCP, Rheumatoid factor was high positive, positive direct Coomb's test and a ds-DNA level of >800. The ANA profile were strong positive for histones and nucleosomes. In the complement system,

C3 and C4 were low. Based on these findings, it is diagnosed as Rhupus syndrome.

Table 1: Investigation Reports.

Investigation	Result
BLOOD RE	
Total count	5420 cells/ cumm
ESR	130 mm/hr
CRP	29.9 mg/L
Liver function test	
Bilirubin (T)	4.47 mg/dl
Bilirubin(D)	3.37 mg/dl
ALT	55 U/L
AST	261 U/L
ALP	274 U/L
Serum protein	7.5 gm/dl
Serum albumin	1.8 gm/dl
Serum globulin	4.2 gm/dl
Renal function test	
Urea	10 mg/dl
Stool RE	
Colour	Brownish
Urine RE	
Pus cells	Plenty
Other investigations	
Pheripheral smear	Dimorphic anemia
Urine culture	Escherichia coli
Rheumatoid factor	418.8
ANA	Positive
CCP antibody	>200
Complement C3	44
Complement C4	5
DCT	Positive

The patient was started on oral steroids and liver supportive medications. Her urine culture grew E.coli which shows sensitivity to the ongoing antibiotics, hence it was continued. She became gradually recovered both clinically and vitally. Hence she requested for discharge and request is granted on the contest of regular follow-up. She was advised for regular follow-up with the pending results of APLA, Anti-Cardiolipin IgM, IgG, Beta-2-Glycoprotein. She was discharged with oral steroid [Tab. Methylprednisolone 24 mg, BD] for 1 week, Tab. HCQ 200 mg, BD for 1 week, oral antibiotic [Tab. Augmentin, 625 mg, TDS] for 5 days and liver supportive medications.

DISCUSSION

SLE and RA are autoimmune disorders with articular and extra articular participation. Rhupus is an unusual condition that merge both SLE and RA. Independently, they have different immunopathogenic mechanisms. SLE is linked with Th2 immune response, whereas RA is connected with Th1 immune response. The exact cause of Rhupus is unknown, but genetic, immunological, hormonal and environmental factors contribute to this condition.[1] HLA-DR alleles have strongly related with rhupus, attributable to genetic factors. The role of immune system is established by the appearance of antibodies and immune complexes.

The etiopathogenesis of rhupus is not clear, it remains non-conclusive. A very complex and multifactorial interconnection with different genetic and environmental factors is involved. There is an overlap between the pro-inflammatory and immune responses from the contributing factors of SLE and RA.[2]

In rhupus patients, there is a lower incidence of malar rash, anemia, renal and neurological involvement when comparing with SLE. And also less severe organ involvement than SLE group. They have predominantly RA related characterization than the SLE associated symptoms.[3] So it can be said as polyarthritis coexist with clinical signs and symptoms of SLE. Hematological abnormalities are the important among SLE in Rhupus. And have more leucopenia there are occurrence of anemia, thrombocytopenia, skin lesions, oral ulcers, alopecia, photosensitivity, pulmonary involvement, renal involvement and neurological involvement in varying quantities.[4]

The diagnosis is made based on the clinical features of both SLE and RA. A high specific autoantibody [Anti-CCP or ds-DNA] with clinical features of SLE are present.[5] The rheumatoid factor [RF] will show high positive along with positive for ANA profiles and direct Coomb's test.[3] The inflammatory markers may be raised. The complement system [C3 & C4] may show abnormality for rhupus. Imaging studies and various other specific antibody profiles also assist in the diagnosis.[6]

On diagnosis, the patient will be started with corticosteroids either oral or intravenous route based on the severity of the diseases progression. Steroid pulse therapy may be utilized for severe case with multi organ damage. Disease modifying antirheumatic [DMARDs] drugs like methotrexate, sulfasalazine, azathioprine or leflunomide are given along with hydroxychloroquine. For multi organ involvement, immunosuppressants such as cyclosporine, cyclophosphamide and mycophenolate mofetil may be utilized.

Our patient was presented with oral ulcers and abdominal pain. She had history of polyarthritis taking ayurvedic medications. Further examinations shows features of SLE and RA such as positive result for RF, CCP, ANA profiles, ds-DNA whereas C3 and C4 were low. Laboratory investigations revealed anemia, thrombocytopenia, hyperbilirubinemia, hypoalbuminemia and cytopenia. And there is an abnormality in the liver may be attributable to the ayurvedic medications. From these evidences, the case was diagnosed as Rhupus. She was initially treated with IV antibiotics since signs of infection and also the presence of E-coli in the urine culture. After the

diagnosis was made oral steroids are started along with DMARDs and hydroxychloroquine. Liver supportive and other supportive medications also given for conservative management.

Patient shows gradual improvement in her condition, despite her tension. After 2 weeks she requested for discharge. Soon after she was discharged with oral steroids along with hydroxychloroquine, oral antibiotics and liver supportive medications.

CONCLUSION

Rhupus Syndrome is an orphan disease marked by intersecting of rheumatoid arthritis and systemic lupus erythematosus. If rhupus is misdiagnosed, it can grew in to a worsening condition. The exact mechanism behind the Rhupus was not known. Generally rhupus shows more RA symptoms and less SLE symptoms. Rheumatologists in particular should be aware of the likelihood that patients with risk factors will develop Rhupus.

Informed Consent

Before taking this case the patient and their families were informed and informed consent was acquired.

Conflicts of Interest: The authors have no conflict of interest to declare.

REFERENCES

1. Sinha P, Singhal A, Bhattacharjee S, Oberoi B. A case of rhupus-reporting of a rare entity. Indian Dermatology Online Journal, 2019 Jan; 10(1): 58.
2. Dairi MS, Ashoor DS, Babkier AS, Algahtani R, Dairi KS, Dairi M, Ashoor D, Babkier A. A Rare Case of Rhupus Syndrome with Systemic Involvement: A Case Report and Literature Review. Cureus, 2022 Dec 19; 14(12).
3. Shovman O, Langevitz P, Shoenfeld Y. Rhupus; unusual presentations. Clinical rheumatology, 2015 Dec; 34: 2041-6.
4. Upadhyaya S, Agarwal M, Upadhyaya A, Pathania M, Dhar M. Rhupus Syndrome: A Diagnostic Dilemma. Cureus, 2022 Sep 11; 14(9).
5. Antonini L, Le Mauff B, Marcelli C, Aouba A, de Boysson H. Rhupus: a systematic literature review. Autoimmunity Reviews, 2020 Sep 1; 19(9): 102612.
6. Liu T, Li G, Mu R, Ye H, Li W, Li Z. Clinical and laboratory profiles of rhupus syndrome in a Chinese population: a single-center study of 51 patients. Lupus, 2014 Aug; 23(9): 958-63.