

# Rhupus syndrome

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## Background

A series of cases of the overlap syndrome called Rhupus, which is a conjunction of rheumatoid arthritis and systemic lupus erythematosus, is reported; The series of 8 rhupus cases is analyzed and compared with some series reported in the world bibliography.

**Keywords:** Rheumatoid arthritis, Rhupus syndrome.

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Case Series

Internal Medicine



**R**hupus is the name given to the overlap syndrome between rheumatoid arthritis and systemic lupus erythematosus. Overlap syndromes are considered a rare phenomenon. The rhupus syndrome has been estimated between 0.01% and 2% of patients with rheumatic diseases.

It is defined as a symmetrical deforming and erosive polyarthritis accompanied by symptoms of Lupus and the presence of antibodies with high diagnostic specificity, such as anti-double-stranded DNA, anti-Smith and anti-cyclic citrullinated peptide antibodies.<sup>1,2,3</sup>

Renal involvement is characteristic of this syndrome; Various authors have found findings of type IV lupus nephritis in patients diagnosed with rhupus.<sup>3</sup>

## Methods

A compilation of rhupus cases is carried out, presented in the internal medicine service, each case being documented according to medical notes, being approved by the institutional ethics committee with registration R-2023-3007-051.

## Results

We present a series of 8 cases of rhupus syndrome, the most affected gender is female in 87%, with an average age of 46 years, all had a baseline diagnosis of rheumatoid arthritis of an average of 9 years of diagnosis, with clinical and radiological findings (erosive polyarthritis deforming) compatible in 100% of cases, regarding serology 50% had positive rheumatoid factor, 75% antibodies to cyclic citrullinated peptide. The main treatments received

were methotrexate, prednisone and non-steroidal anti-inflammatory drugs. The hematological alterations, mainly leukopenia, lymphopenia and thrombocytopenia, present in 100% of the cases, led to the suspicion of overlapping syndrome; 100% of the cases presented positive antinuclear and anti DNA antibodies; other antibodies found were anti-SM, anticardiolipins, and hypocomplementemia. One case also reported criteria for Felty's syndrome with associated neutropenia and splenomegaly. (table 1)

## Discussion

A recent systematic review mentions that the average age of those affected by rhupus is 45 years and between 85 and 100% of those affected are female, data fully compatible with those reported in this series of cases. In our series of cases, rheumatoid arthritis was first diagnosed in 100% of the cases, while in the systematic review it is reported that 65% of the cases reported in it (287 cases) met this criterion. In this systematic review, 85% had positive rheumatoid factor, and 58% had anti-cyclic citrullinated peptide antibodies; Regarding the antibodies to SLE, 89% had antinuclear agents present, 74% anti-DNA, and hypocomplementemia in 50%, something similar to what we reported in our series of cases.<sup>3</sup>

Regarding the predominance of renal involvement, a study demonstrated the presence of renal involvement in 25% of the cases, studying 200 cases and controls. In our series of cases, no patient presented renal involvement. A study that included 21 cases reported a very low incidence of renal involvement, but a higher incidence of interstitial lung

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	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6	Case 7	Case 8
Genre/age	Female/35 yo arthritis	Female/50 yo arthritis	Female/45 yo arthritis	Female/42 yo arthritis	Female/45 yo arthritis	Female/56 yo arthritis	Male/45 yo arthritis	Female/52 yo arthritis
Basal disease	FR + AntiCCP +	FR + AntiCCP +	FR - AntiCCP -	FR - AntiCCP -	FR + AntiCCP +	FR - AntiCCP +	FR + AntiCCP +	FR - AntiCCP +
Comorbidities	---	Diabetes methotrexate	---	---	---	---	---	---
Treatment	Prednisone	Sulindac Celecoxib	methotrexate Prednisone Celecoxib	methotrexate Chloroquine Sulindaco	Prednisone AINEs	AINEs	Leflunomida Prednisone AINE	methotrexate Prednisone Celecoxib
element of suspicion	Anemia, leukopenia lymphopenia	Anemia, leukopenia lymphopenia	oral ulcers, leukopenia, lymphopenia	leukopenia lymphopenia thrombocytopenia	leukopenia lymphopenia thrombocytopenia	leukopenia lymphopenia thrombocytopenia	leukopenia lymphopenia thrombocytopenia	leukopenia lymphopenia thrombocytopenia
Antibodies (+)	Anti DNA hypo complementemia	Anti DNA Anti SM	Antinuclear Anti DNA Anti SM Anticardiolipin IgM	Antinuclear Anti DNA	Antinuclear Anti DNA	Antinuclear Anti DNA	Antinuclear Anti DNA	Antinuclear Anti DNA Anti SM
other findings	Splenomegaly Final diagnosis Rhus + Felty	---	---	---	---	---	---	---

FR: rheumatoid factor; AntiCCP: cyclic citrullinated peptide antibodies

Table 1. Main characteristics of the reported cases of Rhus

involvement, something that was not observed in our series of cases either. A study that reported 7 cases of rhus and compared them with 7 cases of arthritis, 7 cases of lupus, and 7 healthy subjects, demonstrated a high prevalence of specific antibodies for both entities, predominantly anti-cyclic citrullinated peptide, antinuclear, anti-DNA, and anti SM, something similar to what was reported in our series of cases.<sup>4,5,6</sup>

## Conclusion

Rhus syndrome is a syndrome of overlapping of two precise rheumatological entities with characteristic pictures that, when combined, can add greater morbidity and mortality to patients, so early diagnosis is of the utmost importance and must be suspected from clinical and hematological aspects to make therapeutic adjustments. necessary to help a better prognosis of the patients.

## Conflicts of interests

There was no conflict of interest during the study, and it was not funded by any organization.

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