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Rhupus: About 2 Observations and Review of the Literature

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Abstract | **Case Report**

Introduction: Rhupus is the combination of manifestations of RA and SLE, meeting the respective classification criteria of these two pathologies. This uncommon clinical entity with a prevalence of about 0.09% was described by Toone in 1960. ***Objective:*** To prove the mutual exclusivity of RA and SLE in rhupus. ***Observation 1:*** This was a 40-year-old patient, without children, hypertensive on 10mg of nifedipine, followed for 10 years for RA on 15mg of methotrexate. Admitted for polyarthritis, discoid lupus lesions on the ears, facial erythema in vespertilio, oral ulcers, otherwise, the rest of the physical examination was normal. The biological finds hemolytic anemia (hemoglobin to 9.8g/dl), biological inflammatory syndrome (CRP to 101 mg / l), rheumatoid factors, antinuclear antibodies to 1/564 type speckled appearance, U1RNP, anti-Sm and anti-SSA / Ro 52 were positive and hypocomplementemia CH50 to 21.80 (N : 41-94 U / ml). By the classification criteria the diagnosis of rhupus was retained, 400mg of hydroxychloroquine added to his treatment for 6 months gave a favorable evolution. ***Observation 2:*** This was a 21-year-old Guinean student living in Dakar who had been treated for RA for 2 years with 15 mg of methotrexate. She consulted for photosensitivity, erythema in the décolleté and the anterior chest and persistent polyarthritis. Antinuclear antibodies at 1/198 in indirect immunofluorescence on Hep20-10 euroimmun slide, anti-double-stranded DNA antibodies at 640U/ml and anti-Sm at 9U/ml were positive. She received 15mg of methotrexate, 400mg of hydroxychloroquine and 10mg of Prednisolone for 6 months which gave a good improvement. ***Conclusion:*** Rhupus seems to be underdiagnosed, its existence is a reality to be understood to face the challenge.

Keywords: Rhupus, RA, SLE.

INTRODUCTION

Rheumatoid arthritis is the combination of manifestations of rheumatoid arthritis and systemic lupus erythematosus, meeting the respective classification criteria of these two diseases. This association was first described by Toone in 1960 [1] and in 1971, Shur reported the first case under the term rheumatoid arthritis [2]. It is a rare clinical entity, with a prevalence of about 0.09% [3]. The classic symptoms of RA are predominant and precede those of SLE in time [3, 4].

We report two observations with review of the literature.

OBSERVATIONS

Observation 1

This was a 40 years old patient, nulligest with notion of primary infertility, hypertensive on nifedipine 10mg daily, followed for 10 years for rheumatoid arthritis on the basis of joint and immunological involvement meeting ACR/EULAR criteria on background treatment (15mg methotrexate / week), with history of two myomectomies in 2007 and 2009 and phlegmon operated in 2021.

She was admitted to the rheumatology department in January 2022 for a chronic peripheral polyarthritis, bilateral, symmetrical, polysynovial, fixed, additive, persistent, deforming and ankylosing. The discoid lupus lesions on the ears (figure 1), erythema of the face in vespertilio (figure 2), oral ulcers (figure 3), Otherwise the rest of the physical examination is normal.

The biological analysis found a hemolytic anemia (hemoglobin level at 9.8g/dl), a biological inflammatory syndrome (CRP at 101 mg/l), creatinemia and 24-hour proteinuria were normal. Immunologically,

rheumatoid factors, antinuclear antibodies (1/564 type, speckled aspect, U1RNP, anti Sm and anti SSa / Ro 52) were positive. Syphilitic serology was false positive, hypocomplementemia CH50 at 21.80 (N: 41-94 U/ml) was observed. Imaging showed a stage 2 bilateral carpal tunnel on the front of the hands and an erosion of the 5th metatarsals on the feet. So, the diagnosis of rhupus was retained through clinical and paraclinical signs following the ACR/EULAR classification criteria of 6/10 for RA and SLICC 2012 of 5 for SLE. Hydroxychloroquine was added to his treatment at a dose of 400mg twice daily for 6 months. The evolution was favorable at 3rd month with DAS 28 at 2.91, HAQ at 11/60, SLEDAI at 4, and at 6th months with DAS 28 at 1.91, HAQ at 7/60, SLEDAI 2.49.

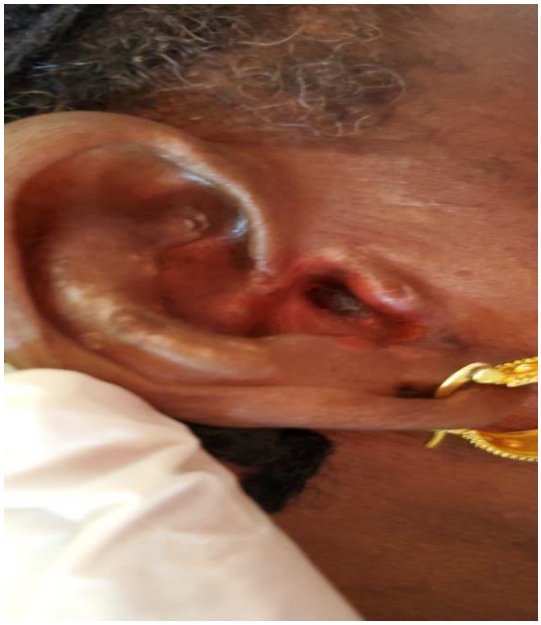

Figure 1: Discoid lupus lesions in the right ear of a 40-year-old female patient with rheumatic fever admitted to the rheumatology department of CHU Dantec/Dakar/Senegal

Figure 2: Facial erythema in vespertilio in a 40-year-old female patient with rheumatic fever admitted to the rheumatology department of CHU Dantec/Dakar/Senegal

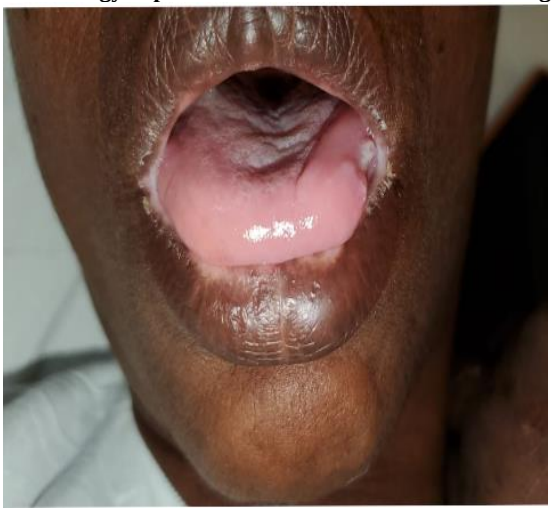

Figure 3: Ulcer and dry mouth in a 40-year-old female patient with rheumatoid arthritis admitted to the rheumatology department of CHU Dantec/Dakar/Senegal

Observation 2

This was a 21-year-old female patient, student and Guinean, residing in Dakar. She has been followed for 2 years for rheumatoid arthritis based on clinical (peripheral synovial polyarthritis) and paraclinical arguments : ACPA > 200 IU / l (N < 5 IU / l), bilateral steinbroker stage 3 carpal tunnel (figure 4) following ACR/EULAR criteria at 7/10, under methotrexate and folic acid 15mg / week. She consulted the department for photosensitivity, erythema in the décolletage on the anterior chest and persistent polyarthritis.

The biological analysis found an inflammatory syndrome with a VS at 42 minutes at the first hour and a CRP 91 mg/l. Immunologically, the search for antinuclear antibodies (ANA) was positive at 1/198 in indirect immunofluorescence on a Hep20-10

Euroimmun slide, with anti-DNA (deoxyribonucleic acid) double-stranded antibodies at 640U/ml and anti-Sm at 9U/ml. Other antibodies (anti-SSA, anti-SSB, Jo1, Scl 70, centromere) were negative, C3, C4 and CH50 complement normal.

Radiographs of the feet showed bilateral erosion of the 5th metatarsals (Figure 5). So, the diagnosis of rhupus was made because of these clinical and paraclinical signs following the ACR/EULAR criteria of 5/10 for RA and the ACR 1997 for SLE.

The treatment was based on methotrexate 15 mg/semaine, hydroxychloroquine 400mg in two doses each day, folic acid 15mg/semaine and Prednisolone for 6 months with good improvement, HAQ 13/60, DAS-28 : 2.21, SLEDAI: 4.15.

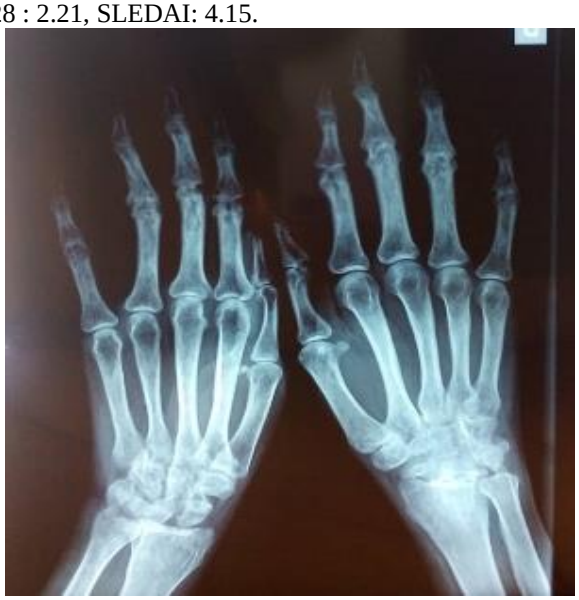

Figure 4: Bilateral steinbroker stage 3 carpitis in a 21-year-old female patient with rheumatoid disease admitted to the rheumatology department of CHU Dantec/Dakar/Senegal

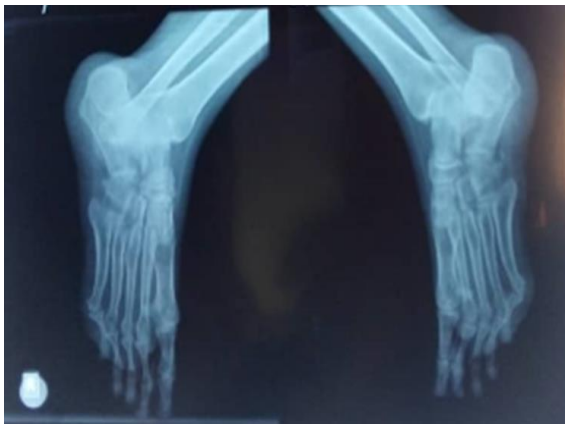

Figure 5: Bilateral erosion of the 5th metatarsal in a 21-year-old female patient with rheumatoid arthritis admitted to the rheumatology department of CHU Dantec/Dakar/Senegal

DISCUSSION

Our observations are those of rheumatoid arthritis which is the association of manifestations of rheumatoid arthritis and systemic lupus erythematosus, meeting the respective classification criteria of these two pathologies. It is a rare clinical entity with a prevalence of about 0.09% [3].

The classic symptoms of RA are predominant and precede those of SLE in time [3,4]. The age of onset in our patients and the sex are in agreement with the data of the literature which assert the high frequency of this association in the female gender and the most frequent age range of onset in the adult subject is 20 to 40 years [5], in Guinea Condé Kaba and collaborators found 2 cases of female sex of ages 26 and 48 years respectively [6].

Our patients presented clinical manifestations of joint disease including erosive polyarthritis which are in agreement with the data in the literature according to which erosive joint disease has been reported in 37.5% of cases of rhupus [7]. They vary according to the series. So, Fernandez mentions in his series of rhupus 87.5% of non-destructive deformations and Ghislain Doris TCHOUKOUA finds 61.82% of polyarthralgia in his studies in Mali [7].

The extra-articular manifestations in these patients were marked by cutaneous manifestations, in particular, discoid lupus lesions on the ears and erythema of the face in vespertilio, which are reported in rhupus in general and considered less severe and less frequent. The frequency of these manifestations would be comparable to those observed in lupus patients. So, cutaneous manifestations have been observed in 30.7 to 71% [8].

The different clinical, genetic and pathogenic aspects of RA and SLE lead us to understand that these two connectivities are mutually exclusive, so, through the auto inflammatory manifestations, the Th1 pathway is involved during RA and the Th2 pathway during SLE [9]. This association has a very low incidence (0.01% - 0.2%) in patients with arthritis [10].

There is shared autoimmunity in the pathogenesis of RA and SLE. The TAP2*0201 gene and TNF-308A gene variants in the same chromosomal region increase susceptibility to autoimmune diseases such as RA, SLE, and Sjögren's syndrome [11]. HLA-DR1 and HLA-DR2 alleles are significantly increased in patients with rhupus [12].

The positivity of the immunological test results (rheumatoid factors, ACPAs) of our patients is supported by the data in the literature that rheumatoid factors are detected in 42-100% of patients with rheumatoid disease, the prevalence of ACPAs has been estimated to be 57-100% in rheumatoid disease [12].

The goal of treatment is to put patients into remission as long as possible, treat complications and prevent further complications by improving quality of life.

The basic treatment with methotrexate and hydroxychloroquine was instituted in our patients with accompanying measures (folic acid, systematic deworming).

In the literature, Ghislain Doris TCHOUKOUA in Mali found 47.17% of patients on methotrexate followed by hydroxychloroquine in 41.51% of patients [7].

Rituximab, which has been proven effective in RA and suggested to treat some manifestations of SLE, could be a promising treatment for rhupus [13].

CONCLUSION

Rhupus is the association of RA and SLE, a rare clinical entity that is the prerogative of young female subjects.

The diagnosis is based on clinical and paraclinical signs following the classification criteria (ACR/EULAR for RA and SLICC 2012 for SLE).

The functional and vital prognosis is engaged by complications (renal and pulmonary).

Management requires a multidisciplinary approach and relies mainly on immunosuppressants.

Is rhupus an overlap or a progressive form of lupus arthropathy?

Sincere Thanks

To all those who participated in the management of these patients in one way or another with a special mention to all the staff of the rheumatology department of the Dantec hospital in Dakar.

DECLARATION OF INTEREST

No interest.

REFERENCES

1. Toone Jr, E. C., & EL, P. (1960). The LE cell in rheumatoid arthritis. *The American journal of the medical sciences*, *240*, 599-608.
2. Schur, P. H. (1971). Systemic lupus erythematosus in Cecil-Loeb Texbook of Medicine. *Philadelphia, PA*, *821*.
3. Fernández, A., Quintana, G., Matteson, E. L., Restrepo, J. F., Rondón, F., Sanchez, A., & Iglesias, A. (2004). Lupus arthropathy: historical evolution from deforming arthritis to rhupus. *Clinical rheumatology*, *23*(6), 523-526.
4. Panush, R. S., Edwards, N. L., Longley, S., & Webster, E. (1988). 'Rhupus' syndrome. *Archives of Internal Medicine*, *148*(7), 1633-1636.
5. Bader-Meunier, B., Armengaud, J. B., Cochat, P., Deschênes, G., Quartier, P., BAUDOIN, V., ... & SALOMON, R. (2003). Presenting manifestations of systemic lupus erythematosus (SLE) in 136 children. *Clinic Exp Rheum*, *21*, 551.
6. Kaba, C., Salissou, G. M., Moustapha, N., & Rama, D. (2019). Rhupus: study of two cases in Conakry, Guinea. *European Scientific Journal*, 15, 181-187.
7. Ghislain, D. T. (2019). Rhupus: Fréquence et aspects : cliniques et immunologiques dans le Service de Rhumatologie (CHU-pt G). *Thèse Médecine Université de Bamako*. Année 2018-2019.
8. Iaccarino, L., Gatto, M., Bettio, S., Caso, F., Rampudda, M., Zen, M., ... & Doria, A. (2013). Overlap connective tissue disease syndromes. *Autoimmunity Reviews*, *12*(3), 363-373.
9. Amezcua-Guerra, L. M., Springall, R., Marquez-Velasco, R., Gómez-García, L., Vargas, A., & Bojalil, R. (2006). Presence of antibodies against cyclic citrullinated peptides in patients with'rhupus': a cross-sectional study. *Arthritis research & therapy*, *8*(5), 1-5.
10. Hayakawa, S., Komine-Aizawa, S., Osaka, S., Iida, T., Hayakawa, J., Nishinarita, S., & Nemoto, N. (2007). Rembrandt's Maria Bockenolle has a butterfly rash and digital deformities: overlapping syndrome of rheumatoid arthritis and systemic lupus erythematosus. *Medical hypotheses*, *68*(4), 906-909.
11. Alfadhli, S., & Nizam, R. (2014). Rhupus: A crosswalk between lupus and rheumatoid arthritis. *OA Arthritis*, *10*, 2.
12. Fernández, A., Quintana, G., Matteson, E. L., Restrepo, J. F., Rondón, F., Sanchez, A., & Iglesias, A. (2004). Lupus arthropathy: historical evolution from deforming arthritis to rhupus. *Clinical rheumatology*, *23*(6), 523-526.
13. Benavente, E. P. I., & Paira, S. O. (2011). Rhupus: report of 4 cases. *Reumatología Clínica (English Edition)*, *7*(5), 333-335.