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IMPORTANCE OF SURAL NERVE BIOPSY IN SERONEGATIVE RHEUMATOID ARTHRITIS AND POLYNEUROPATHY

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BACKGROUND

The appearance or persistence of cutaneous, renal or neurological manifestations in rheumatoid arthritis (RA) patients with chronic systemic inflammatory status may indicate the presence of vasculitis. An emblematic case of peripheral nervous system involvement in seronegative RA with multiple confounders for polyneuropathy is here described.

CASE REPORT

A 65-year-old man with chronic inflammatory polyarthritis of the hands and wrists for 21 years, untreated, was admitted to our service for decompensated heart failure (HF) and polyneuropathy. Only 1 year ago, he started investigating joint symptoms associated with elevated inflammatory biomarkers. He was diagnosed as RA with negative rheumatoid factor and anti-CCP (US and MRI of hands/wrists with an inflammatory joint pattern: synovitis and erosions). His medical background was notable for a gangrenous pyoderma in the lower limbs three years ago, hypertension, ischemic HF, diabetes and an IgG/Kappa monoclonal gammopathy. In addition, five years ago, he started neurological symptoms with a pattern of polyneuropathy in boots and gloves. He was initially diagnosed with fine-fiber polyneuropathy due to vitamin B12 deficiency, receiving periodic vitamin B12 replacement. With the persistence of the neurological condition and systemic inflammation, extra-articular seronegative RA activity was suspected. Methylprednisolone 1 g/day for three days, followed by cyclophosphamide (CYC) monthly, were performed for four months, with partial improvement. Cyclophosphamide was discontinued after infectious complications and methotrexate was introduced. Six months later, he received rituximab for maintenance; however, he persisted with articular symptoms, increased inflammatory biomarkers and he was admitted with decompensated HF. Evaluation of paraneoplastic syndromes/POEMS, amyloidosis or RA extra-articular activity was negative. At hospitalization, HF was compensated, but the patient developed acute myocardial infarction requiring angioplasty and worsening of the neurological pattern: with impaired gait and fine hand movements and new electroneuromyography with a pattern compatible with length-dependent sensorimotor polyneuropathy. Inflammatory biomarkers remained elevated although prednisone 0.5 mg/kg/day. A biopsy of the sural nerve was performed and showed an area of vascular neoformation with lymphomonocytic infiltrate, disorganization of the middle layer and recanalization, compatible with vasculitis. The patient received a new cycle of CYC with a later proposal to start a JAK inhibitor.

CONCLUSION

In patients with persistent inflammatory conditions, even in the presence of multiple possible alternative explanations to justify a condition of polyneuropathy, the sural nerve biopsy plays an important role in the differential of vasculitic involvement and consequent therapeutic alteration.