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Clinical case

Massive nodulous lesions on hands and feet in a RA patient and improvement under baricitinib treatment

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Dear Editor,

A 58-year-old woman presented with massive nodulous lesions on her hands and feet in our outpatient clinic in spring 2018. She had a history of seropositive erosive rheumatoid arthritis (RA) starting in 2005 with first nodules appearing in 2008. The patient had received sequential treatments with prednisolone, methotrexate 15 mg/week for 4 years and stopped in 2012, leflunomide for 3 years and adalimumab until presentation. Over the years, hand and feet nodules worsened impairing her function. She also developed skin lesions around the nodules leading to severe recurrent local infections requiring surgical removal of some of the nodules, ultimately necessitating the amputation of two digits. At presentation, the patient showed massive nodular deformations and palpable subcutaneous soft nodules, some of which emptied spontaneously (*figure 1A*). MRI showed pronounced and widespread soft tissue deposits in her right hand with virtually complete disappearance of the physiological joint surfaces in the absence of active synovialitis and a carpal collapse with complete destruction of the *os lunatum*, partial destruction of the *os scaphoideum* and *os triquetrum* (*figure 1C*). A dual-energy-CT did not show any deposition of uric acid crystals.

Incisional biopsy specimens of the affected tissue showed extensive confluent amorphous necrosis surrounded by palisade-like histiocytes, epithelioid and Langhans cells, as well as fibrosclerotic connective tissue with dense lymphoplasmal infiltrates, resembling a rheumatoid nodule. Ziehl Neelsen stain, *M. tuberculosis* culture and PCR were negative. In combination with antibiotic treatment to control local infection, which was

Key messages

What is already known about this study?

- Rheumatoid nodules are associated with seropositive RA and found in a subset of RA patients, usually in those with severe disease.

What does the study add?

- This is the first study showing the JAK inhibitor baricitinib as effective therapeutic option in a severe RA nodulosis.

How might this impact on clinical practice or future developments?

- JAK inhibitors might be a therapeutic option in this clinical setting.

resolved within 10 days, we started treatment with the JAK Inhibitor baricitinib (4 mg/day). At 2-year follow-up, nodules substantially regressed upon treatment with baricitinib and no further infection occurred (*figure 1B*).

Rheumatoid nodules are associated with seropositive RA and found in a subset of RA patients, usually in those with severe disease. Some treatments for RA, such as methotrexate, leflunomide, tumour necrosis factor and interleukin-6 receptor inhibitors can paradoxically enhance nodule growth.^{1–5} While rheumatoid nodule formation is usually mild, it occasionally can be severe. In this patient, nodule formation was excessive, highly destructive and life threatening due to the associated soft tissue infections.

Contributors LVM, MH, AK, BM and GS contributed to the treatment design and patient management; LVM conceived the presented idea and wrote the paper with input from GS.

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Competing interests None declared.

Patient consent for publication Consent obtained directly from patient(s).

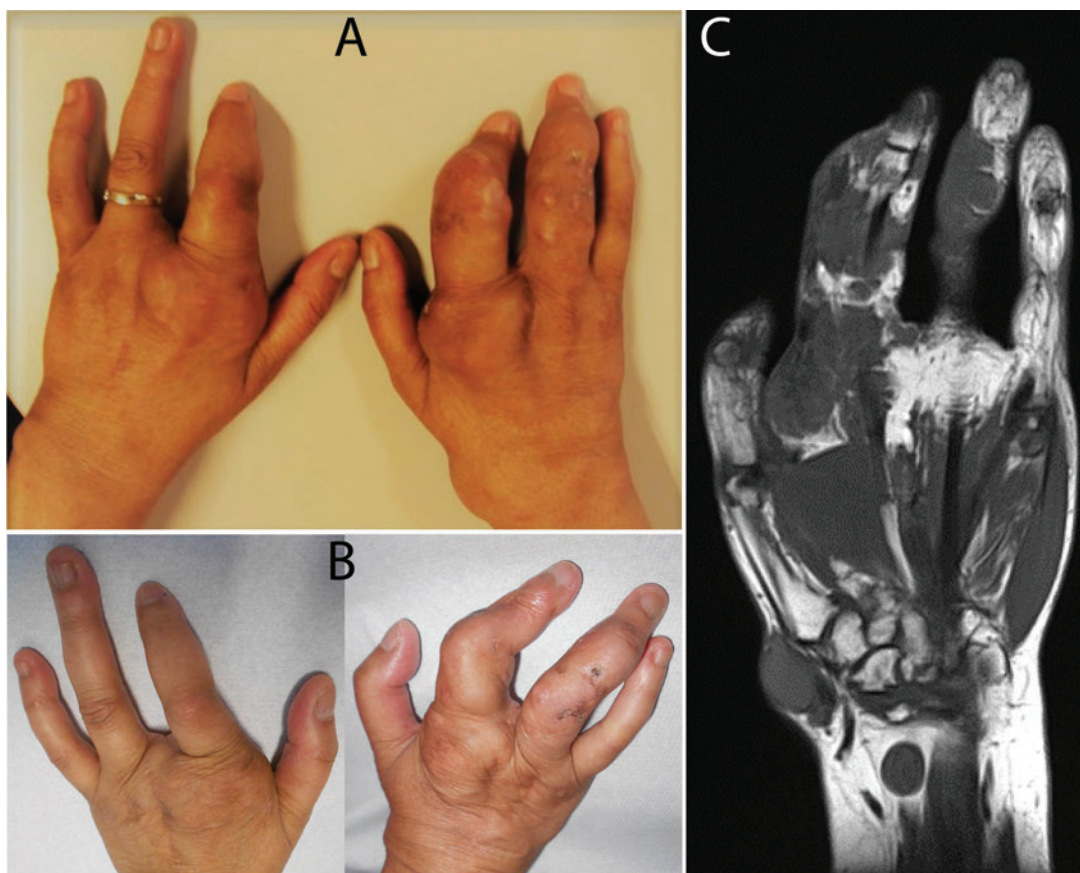


Figure 1 Massive nodular deformations and palpable subcutaneous soft nodules (A). At 2-year follow-up, nodules substantially regressed upon treatment with baricitinib (C). MRI right hand with pronounced and widespread soft tissue deposits (B).

Ethics approval Consent obtained directly from the patient.

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REFERENCES

- 1 Patatanian E, Thompson DF. A review of methotrexate-induced accelerated nodulosis. *Pharmacotherapy* 2002;22:1157–62.
- 2 Braun MG, Van Rhee R, Becker-Capeller D. Development and/or increase of rheumatoid nodules in RA patients following leflunomide therapy. *Z Rheumatol* 2004;63:84–7.
- 3 Kekow J, Welte T, Kellner U, et al. Development of rheumatoid nodules during anti-tumor necrosis factor alpha therapy with etanercept. *Arthritis Rheum* 2002;46:843–4.
- 4 Mackley CL, Ostrov BE, Ioffreda MD. Accelerated cutaneous nodulosis during infliximab therapy in a patient with rheumatoid arthritis. *J Clin Rheumatol* 2004;10:336–8.
- 5 Talotta R, Atzeni F, Batticciotto A, et al. Accelerated subcutaneous nodulosis in patients with rheumatoid arthritis treated with tocilizumab: a case series. *J Med Case Rep* 2018;12:154.