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## Musculoskeletal Ultrasound Manifestation of Osteoarthropathy in EMO Syndrome

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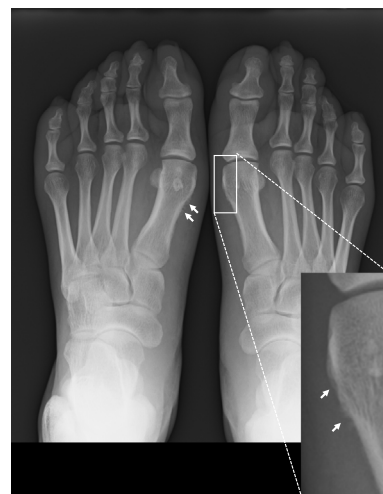
**Key words:** EMO syndrome, Graves' disease, musculoskeletal ultrasound, osteoarthropathy

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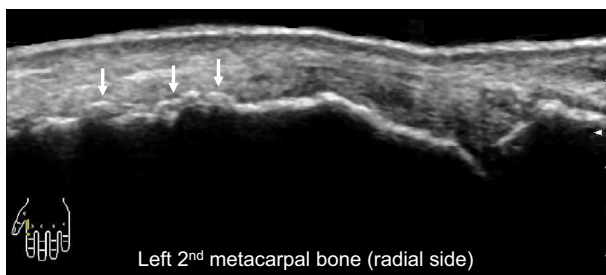
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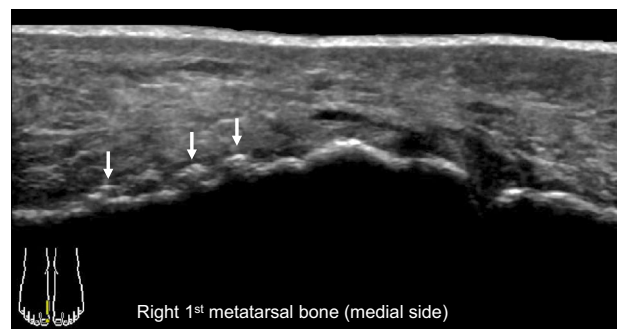
**Picture 1.**



**Picture 2.**



**Picture 3.**



**Picture 4.**

EMO syndrome is a rare condition seen in <1% of patients with Graves' disease. It is defined as a triad of exophthalmos, pretibial myxedema, and osteoarthropathy (1, 2). We herein report a case of EMO syndrome in which musculoskeletal ultrasound (MSUS) was useful for the diagnosis of osteoarthropathy. A 54-year-old woman had a 1-year history of hand stiffness. She had been diagnosed with ophthalmopathy associated with Graves' disease 6

years earlier (TSAb 3,674% TRAb 32.9 IU/L). A physical examination revealed clubbed fingers and pretibial non-pitting edema. X-ray showed brushed periosteal hypertrophy on the metacarpal and metatarsal bones (Picture 1, 2). MSUS showed irregular bone prominence (Picture 3, 4) and

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local subcutaneous hypertrophy of the left lower leg, which was proven to be myxedema by a histopathologic examination. It is not easy to detect periosteal hypertrophy on X-ray. Since MSUS has a high spatial resolution and little direction dependence, periosteal hypertrophy can be easily detected using this modality.

**The authors state that they have no Conflict of Interest (COI).**

## References

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