

Thyroid Acropachy: A rare manifestation of Graves Disease

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INTRODUCTION

Thyroid acropachy is a rare manifestation of Graves disease characterized by periosteal new bone formation and digital clubbing.

Patients may be asymptomatic, but some present with disabling small-joint pain, skin tightness, and soft tissue swelling.

It is common in smokers and patients with advanced ophthalmopathy or dermopathy; early recognition is important to prevent unnecessary tests and treatment

IMAGE 1: Thyroid acropachy after treatment



CASE DESCRIPTION

A 58-year-old woman with 18-year history of Graves disease status post thyroidectomy, thyroid eye disease s/p oculoplastic surgery and radiation therapy, post-surgical hypothyroidism treated with levothyroxine, osteoporosis, and tobacco use presented to the Emergency Room with four months history of worsening pain in both hands and feet with associated swelling, early morning stiffness and curving of her nails. She had no oral ulcers, photosensitivity rash, or fatigue.

She had normal vital signs, but her physical examination revealed exophthalmos, generalized soft tissue swelling of hands and feet, tenderness in the metacarpophalangeal and distal interphalangeal (DIP) joints of both hands, grade 4 finger clubbing, and thickening of the skin over the dorsum of both feet and ankles. **See Image 1.**

Laboratory data showed normal TSH and free T4, elevated Thyroid Stimulating Immunoglobulin 2.7(≤ 1.3 TSI index), negative ANA, RF, and anti-dsDNA. CRP 0.07 (< 1.00 mg/dl), Sedimentation rate 37(0 – 20mm/hr), Vitamin D 27.4 (< 20 ng/ml). Xray of both hands showed narrowing of the DIP and prominent periosteal reaction in the metacarpals and proximal phalanges. Xray of both feet also showed periosteal reaction along the ulnar border of the first metatarsal.

She had a right foot skin biopsy; pathology revealed verrucous skin and no myxoedema. She was diagnosed with thyroid acropachy, received three weeks of treatment with Prednisone 20mg daily, and was switched to weekly Methotrexate and folic acid. Her pain and swelling improved with steroids, but finger clubbing persisted. At a recent follow-up visit, she reports being pain-free on Methotrexate

CONCLUSION

Graves acropachy is rarely seen in the absence of dermopathy or ophthalmopathy.

Diagnosis is often clinical; however, an X-ray of the affected limb often provides a more accurate diagnosis.

There is no specific treatment, but high dose steroids, Rituximab, and other immunomodulators have been used.

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