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IMAGES IN RHEUMATOLOGY

Everyday complaints - a rare form of arthropathy

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CASE REPORT

A 55-year-old female was referred for evaluation of mechanical arthralgia and short-term stiffness involving the small joints of the hands and feet. She had no relevant medical history but had been aware of global swelling of the fingers and bilateral paraesthesia in median nerve territory in the past 3 years. There was no suggestive history of arthritis or Raynaud's phenomenon.

Physical examination (Figure 1) revealed coarse facial features with marked furrows, prognathism, enlarged base of the nose and dental diastema (A). The hands (C) and feet (D) were square and there was global widening of soft tissues, but no clinical arthritis. Phalen's test was positive bilaterally.

An additional survey was carried out and highlighted the presence of recent onset snoring, notion of progressive disfigurement and the need to increase shoe size. Facial features were less obvious in a photograph taken five years earlier (B). She denied headaches or changes in visual acuity.

Hands X-ray (E) showed distal phalangeal tufts hypertrophy with garden spade appearance - spade phalanx sign (point of arrow).

Laboratory studies showed an insulin growth factor 1 (IGF1) level of 673 ng/mL (N 45-210). The patient underwent oral glucose tolerance test to induced GH suppression which failed (GH value after the test was > 1ng/dL) - confirming the diagnosis. Magnetic resonance imaging (MRI) of the skull (F) revealed an isointense lesion on T1 sequence, measuring 13*15 millimetres, placing macroadenoma (asterisk) as the main diagnostic hypothesis and acromegalic arthropathy as the reason of patient complaints. In addition to the acromegalic-related disorders evoked by the anamnesis

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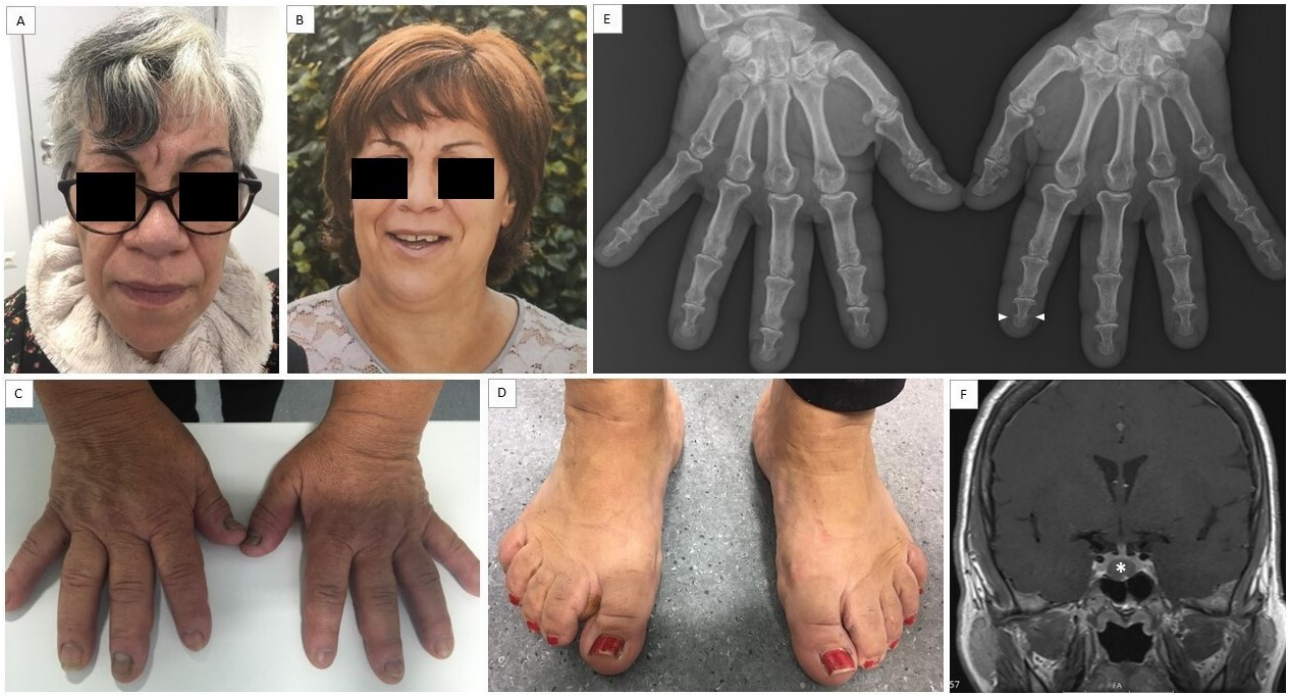

Figure 1. Clinical and radiological features of acromegaly. A- Photograph of the patient at the time of observation, in 2021; B- Photograph provided by the patient, taken in 2016; C- Square hands with soft tissue enlargement; D- Square feet with soft tissue enlargement and increased heel pad thickness; E- Hands Xray showing distal phalanges hypertrophy with a shovel or spade appearance (▽); F - Coronal T1-weighted views of skull MRI showing pituitary adenoma (*).

(sleep apnoea, peripheral neuropathy, and soft tissue enlargement), no other potential complications were found such as cardiovascular disease, goiter or metabolic abnormalities.

The patient underwent transsphenoidal surgical excision and histological examination confirmed the clinical diagnosis of growth hormone-secreting pituitary adenoma. At 1-year follow-up, she had normal IGF1 (58 ng/mL), GH <1 ng/mL and, no residual tumour on MRI. However, joint symptoms persist.

DISCUSSION

Acromegaly is a disease characterized by increased release of growth hormone (GH), most frequently due to a pituitary adenoma. Among the clinical manifestations of acromegaly, arthropathy is frequent and can be serious and disabling[1,2]. In some cases, acromegalic arthropathy may be the disease presentation[2].

X-rays of the hands (E) showed the presence of the spade phalanx sign. This radiographic finding is a characteristic sign of acromegaly in the appropriate clinical context, but can be present as normal variants, being more common in men who perform manual labour and in the elderly[3]. The enlargement of the bases of those phalanges together with enlargement of sesamoid bones may help in differentiating between acromegaly and other conditions associated with the spade phalanx sign[4].

Acromegalic arthropathy is a progressive joint disorder that cannot be effectively halted or reversed solely through biochemical disease management or surgical intervention. The activity of GH/IGF1 appears to play a central role not only in the initial development of arthropathy but also in the later stages of osteoarthritis progression, which affects over 70% of patients[5].

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