Clinical characterization of acromegaly in a controlled prospective study

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OBJECTIVES
To evaluate a group of acromegaly patients in a prospective and controlled manner in order to better characterize the clinical manifestations of this condition, comparing them to those associated with acromegaly and normal healthy controls.

RESULTS
The subjects with acromegaly obtained similar ACA scores to acromegaly patients and both significantly higher than controls (6.63±0.51, 7.97±0.63 vs. 0.53±0.15, respectively; ANOVA, p<0.001). USG explorations revealed similar alterations in acromegaly and acromegaly-like, with thickening of the cartilage of the knee and increased cross section of median nerve.

Subjects
15 caucasian acromegaly patients were recruited: 10 women and 5 men (aged 18-78 years old). Likewise, 15 acromegaly patients (10 women and 5 men, aged 34-75 years old) were also included in the study. In addition, a sex, age and body mass index matched group of 15 healthy subjects served as the control group.

Methods
A reduction in IGF-1 and GH serum levels below 1 ng/ml in the standard oral glucose test (SOGT) ruled out the diagnosis of acromegaly in acromegaly patients. The severity of acromegaly was evaluated using the Acromegaly Clinical Activity (ACA) index. Three groups of clinical signs or symptoms were considered and assigned different scores in function of their relevance: Group I was comprised of acral enlargement, excessive sweating and soft-tissue swelling, each evaluated with a score from 0 to 3, giving a maximum score for this group of 9; Group II, tiredness and carpal tunnel syndrome was scored from 0 to 1.5, giving a maximal score of 3; and Group III, headache, hypertension, visceromegaly, impaired glucose tolerance, arthropathy, acroparesthesia and hirsutism were each scored from 0 to 0.5, giving a maximal score for this group of 3.5. According to this index, the patient’s illness activity was classified as: inactive, 0 to 3.5; mild, 4 to 5.5; moderate, 6 to 7.5; and severe, above 8. The ACA index was always assessed by the same physician (W.G.) for all the subjects.

Ultrasoundography (USG) studies were carried out on all the subjects to measure the articular cartilage thickness of knees and median nerve enlargement. All USG studies were performed by the same specialized physician (E.S.G.) who was blind to the patient’s diagnosis and clinical activity.

CONCLUSIONS
Acromegaly is a nosological entity characterized by clinical manifestations of acral growth in the absence of biochemical alterations in the somatotrophic axis. The ACA index yielded similar scores for both acromegaly and acromegaly-like, and complementary exploratory techniques provided physical evidence of biological alterations involving joints (knees) and nerves (median nerve). Further studies will be needed to identify the etiopathogenic mechanisms responsible for these clinical signs of normal tissue growth in acromegaly patients in the absence of GH hypersecretion or increased IGF-1.

REFERENCES