

Neuroendocrinology and Pituitary NEUROENDOCRINOLOGY AND PITUITARY CLINICAL ADVANCES

Vertebral Fractures Occur Regardless of Acromegaly Activity and Are Best Predicted by Proximal Femur Cortical Volumetric Bone Mineral Density

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Introduction: Vertebral fractures (VFs) in patients with acromegaly are not associated with bone mineral density (BMD) decrease. Previous studies showed impaired trabecular bone parameters among acromegaly patients. However, recent studies suggest that cortical bone could also play a role in VF development. **Objective:** Evaluate the utility of dual energy x-ray absorptiometry (DXA) BMD and bone structural parameters to determine VF risk among acromegaly patients. **Patients and Methods:** A single-center two years prospective follow up of acromegaly patients regardless of age, gender, disease activity or associated treatments was conducted. Pituitary hormones, glucose metabolism and bone turnover markers in all subjects were assessed. Each subject had L1-4 spine, femoral neck (FN) and total hip (TH) BMD measured using DXA, and TBS measurement performed \pm 7 days from blood sampling. 3D Shaper was used to assess proximal femur trabecular and cortical volumetric (v) BMD, cortical surface (s) BMD and cortical thickness (Cth). VF assessment was performed using the lateral spine imaging IVATM mode with a Hologic Horizon[®] densitometer using semi-quantitative approach. Study outcomes were assessed at two time points - baseline and month 24. **Results:** Seventy subjects (34 M/36F), mean age 55.1 years, including 26 with active disease were studied. After two years a significant decrease in IGF-1 (-30%), osteocalcin (-18%) and TH cortical vBMD (-3%; all $p \leq 0.05$) was observed. During follow-up, 13 patients nine of them with controlled disease, developed VF; these patients had greater increase in CTx and decrease in TBS, sBMD, cortical and trabecular vBMD at TH and neck. Multivariate analysis of fracture prediction showed cortical vBMD at TH and neck as best parameters for fracture prediction with AUC 0.766 and 0.774; respectively. TBS was negatively associated with fasting plasma glucose (FPG), HBA1c at each time period. **Conclusions:** Decrease in cortical vBMD was the most sensitive and specific predictor of incident VF suggesting that cortical bone is involved in fracture development among acromegaly patients. In addition, TBS was strongly negatively associated with glucose metabolism, suggesting glucose intolerance could lead to trabecular bone impairment.

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Assessment of the Severity of Carpal Tunnel Syndrome in Patients With Acromegaly: A Focus on Clinical, Biochemical and Image Outcomes

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This is a descriptive cross-sectional study designed to analyze the prevalence and severity of carpal tunnel syndrome (CTS) in addition to its association with clinical, biochemical, and imaging variables in a cohort of patients with acromegaly. Data collection was performed by entering them in our database and we subsequently analyzed in the SPSS system. Of the 71 patients registered with acromegaly, 68 met the inclusion criteria. Among the results, 97.8% presented CTS evidenced by electroconduction. Of these, 43 (63.1%) showed moderate involvement, followed by 17 severe cases (25%) and 6 mild cases (8.8%). The level of GH in serum, the years of delay in diagnosis, and the size of the adenoma were related to the presence and severity of CTS (p less than 0.05). The multivariate analysis showed that severe grade had a significant association with these variables compared with moderate and mild grade.

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Cardiac Remodeling in Patients with Childhood-Onset Craniopharyngioma - Results of HIT-Endo and KRANIOPHARYNGEOM 2000/2007

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Hypothalamic obesity caused by childhood-onset craniopharyngioma results in long-term cardiovascular morbidity. Knowledge about clinical markers and risk factors is rare. A cross-sectional study on transthoracic echocardiographic parameters was performed to determine the associations with clinical and anthropometric parameters in 36 craniopharyngioma patients recruited in HIT-Endo and KRANIOPHARYNGEOM 2000/2007. BMI correlated with the thickness of interventricular septum in diastole (IVSd) ($r=0.604$, $p<0.001$) and left ventricular posterior wall thickness in diastole (LVPWd) ($r=0.460$, $p=0.011$). In multivariate analyses on risk factors for cardiac remodeling, sex hormone replacement therapy, BMI and male gender were