Somatotroph adenoma clinical features

Somatotroph adenomas (GH producing adenomas, somatotropinomas) are typically recognized when they secrete GH excessively and cause the clinical syndrome of acromegaly. This recognition not only identifies a sellar mass as a somatotroph adenoma but also expands the therapeutic options. Occasional reports in the literature also describe 'silent somatotroph adenomas,' referring to adenomas that can be identified as somatotroph adenomas by positive immunohistochemical staining for GH but are not associated with clinical evidence of GH excess. Some of these adenomas are totally silent, in that they are not associated with either clinical manifestations of GH excess or elevated serum concentrations of GH or IGF1 [1) 2) 3) 4) 5)]

Excessive growth hormone (GH) is usually secreted by GH-secreting pituitary neuroendocrine tumors and causes gigantism in juveniles or acromegaly in adults.

The prevalence of thyroid disease increased in the GH-secreting adenoma group compared with that in the NF pituitary neuroendocrine tumor group. The number of hypoechoic, isoechogenic, heterogeneous, and vascular thyroid nodules increased in patients with GH-secreting adenoma plus thyroid disease compared with that in patients with NF pituitary neuroendocrine tumor plus thyroid disease. Finally, we found significant decreases in the morphology of solid nodules and significant increases in the morphology of cystic nodules after surgery compared with those before surgery in the cured group. Moreover, the numbers of heterogeneous and vascular thyroid nodules decreased significantly after surgery compared with those before surgery in the cured group. However, the characteristics of the thyroid nodules did not change after surgery compared with those before surgery in the non-cured group.

The numbers of hypoechoic, isoechoic, heterogeneous, and vascular thyroid nodules increased in patients with GH-secreting adenomas. In these patients, surgery resulted in significant changes from solid to cystic nodules and also reduced the numbers of heterogeneous and vascular thyroid nodules [6)].

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