# Somatotroph pituitary neuroendocrine tumor treatment

- The Effect of Growth Hormone-Secreting Pituitary Adenoma Disease Activity on Thyroid Nodules
- Predictive factors for post-therapeutic biochemical discordance in acromegaly: a monocentric analysis of 156 cases
- Comparison of the clinical and prognostic characteristics of patients with different pathological types in acromegaly
- Cervical osteophyte complex causing compressive myelopathy leading to a diagnosis of acromegaly
- Navigating prognostic strategies for GH- and PRL-secreting pituitary neuroendocrine tumors: key insights from a clinicopathological study
- Reducing PKCdelta inhibits tumor growth through growth hormone by inhibiting PKA/CREB/ERK signaling pathway in pituitary adenoma
- Circulating miR-20a-5p as a biomarker associated with cabergoline responsiveness in patients with hyperprolactinemia and pituitary adenomas
- Immune checkpoint inhibitor therapy for aggressive pituitary neuroendocrine tumors

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Transsphenoidal adenomectomy (TSS) of somatotroph pituitary neuroendocrine tumor (PitNET) is the first-line treatment of acromegaly. Pharmacological treatment is recommended if surgery is contraindicated or did not lead to disease remission. The choice of treatment best fitting each patient should be based on thorough investigation of patients' characteristics [1)]

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Aggressive GH-secreting pituitary neuroendocrine tumors (GHPAs) represent an important clinical problem in patients with acromegaly. Surgical therapy, although often the mainstay of treatment for GHPAs, is less effective in aggressive GHPAs due to their invasive and destructive growth patterns, and their proclivity for infrasellar invasion.

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Growth hormone-secreting pituitary neuroendocrine tumor should be treated surgically, often followed by radiation therapy. That acromegaly can be treated with surgery alone is very unlikely. However, debulking the tumor is very important. Radiation therapy results in 50% reduction in growth hormone levels within 2 years, followed by an additional 25% in the following 2 years. Thereafter, the growth hormone levels decline more slowly. Therefore, the lower the postoperative growth hormone level, the higher the chance of remission after radiation therapy. Medical treatment is used after surgery to suppress growth hormone secretion, awaiting the occurrence of the effects of radiotherapy. Octreotide is the treatment of choice. A long-acting formulation administered monthly is now available.

Somatostatin must be administered as a continuous infusion, while shorter-acting octreotide is administered tid-qid. Growth hormone receptor antagonists have been another addition to the treatment of acromegaly. Dopamine agonists also may be used but are not as effective as octreotide (approximately 30% of somatotropinomas respond).

# Surgery

see Somatotroph pituitary neuroendocrine tumor surgery.

# Medical treatment

see Acromegaly medical treatment.

## Gamma Knife radiosurgery

see Gamma Knife radiosurgery for growth hormone-secreting pituitary neuroendocrine tumor.

1)
Tomasik A, Stelmachowska-Banaś M, Maksymowicz M, Czajka-Oraniec I, Raczkiewicz D, Zieliński G, Kunicki J, Zgliczyński W. Clinical, hormonal and pathomorphological markers of somatotroph pituitary neuroendocrine tumors predicting the treatment outcome in acromegaly. Front Endocrinol (Lausanne). 2022 Sep 16;13:957301. doi: 10.3389/fendo.2022.957301. PMID: 36187106; PMCID: PMC9523725.

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