

Acromegaly diagnosis

Abnormally high levels of [growth hormone](#) in an adult. > 95% of cases are due to a benign pituitary [somatotroph adenoma](#), > 75% are > 10mm at time of diagnosis

Work-up: [endocrine tests](#), cardiology consult, colonoscopy

[Hyperprolactinemia](#) and [hypopituitarism](#) are common among [acromegaly](#) patients and predict worse surgical [outcomes](#). After surgery, improvement and worsening of Hypothalamic-Pituitary-End-Organ Axes [hormones](#) function co-exist. Correlated factors are identified for clinical management ¹⁾.

IGF-1 for Acromegaly Diagnosis

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Oral glucose tolerance test: The [growth hormone](#) (GH) nadir during oral [glucose](#) tolerance [test](#) (OGTT) is the [gold standard](#) diagnostic test for [acromegaly](#). The utility of OGTT-GH suppression test in patients with abnormal [glucose metabolism](#) (AGM) has not been well established.

In a study, Dobri et al. compared the GH nadir during OGTT in patients evaluated for acromegaly in the presence and absence of AGM.

This is a retrospective cohort study of patients with acromegaly (G1, n = 40) and a group in whom acromegaly was not confirmed (G2, n = 53) who had OGTT-GH suppression test during 2000-2012, using a monoclonal GH immunoenzymatic assay. The patients were categorized as having normal glucose metabolism (NGM) or AGM. GH nadir during OGTT in each group were compared.

In G1 and G2, 17 and 19 patients had AGM, respectively. Among 17 patients with diabetes, median HbA1C was 7% (range 5.7-9.6%). All except one patient had HbA1C < 8%. There was no difference in the GH nadir in patients with or without AGM within G1 (p = 0.15) and G2 (p = 0.43). All G1 patients with AGM had GH nadir > 0.4 µg/L. Four G1 patients with NGM had GH nadir < 0.4 µg/L. All G2 patients had GH nadir < 0.4 µg/L, except one with NGM and GH nadir of 0.4 µg/L.

Using highly sensitive GH assay, a GH nadir ≥ 0.4 µg/L during the OGTT-GH suppression test may be used for diagnosis of acromegaly in patients with AGM in the absence of poorly controlled diabetes ²⁾.

α-Klotho

Soluble [α-Klotho](#) (sKl) is a disease-specific biomarker that is elevated in patients with [acromegaly](#) and declines after surgery for [pituitary neuroendocrine tumor](#)

1)

Guo X, Zhang R, Zhang D, Wang Z, Gao L, Yao Y, Deng K, Bao X, Feng M, Xu Z, Yang Y, Lian W, Wang R, Ma W, Xing B. [Hyperprolactinemia](#) and [Hypopituitarism](#) in [Acromegaly](#) and Effect of [Pituitary Surgery](#): Long-Term Follow-up on 529 Patients. *Front Endocrinol (Lausanne)*. 2022 Jan 26;12:807054. doi: 10.3389/fendo.2021.807054. PMID: 35154007; PMCID: PMC8825499.

2)

Dobri G, Niwattisaiwong S, Bena JF, Gupta M, Kirwan J, Kennedy L, Hamrahian AH. Is GH nadir during OGTT a reliable test for diagnosis of acromegaly in patients with abnormal glucose metabolism? *Endocrine*. 2018 Nov 10. doi: 10.1007/s12020-018-1805-z. [Epub ahead of print] PubMed PMID: 30415402.

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