Arasu A, Bose V. Acromegaly Presenting as Hypogonadism. *DOM Clinical Insights*. 2026;1(2). doi:10.5070/V6.64096

Visual Diagnosis Pearl

Acromegaly Presenting as Hypogonadism

Aarthi Arasu[1], Vivek Bose[1]

[1] Medicine, University of California, Los Angeles

https://doi.org/10.5070/V6.64096

UCLA Department of Medicine Clinical Insights

Vol. 1, Issue 2, 2026

INTRODUCTION

Acromegaly is a chronic disorder caused by excessive growth hormone (GH) secretion, most commonly due to a pituitary adenoma.[1] Classic manifestations include acral enlargement, coarsened facial features, and metabolic complications. However, early-stage disease may present with subtle or nonspecific symptoms, often leading to diagnostic delays of 5–10 years.[1,2] Early recognition is critical to reduce morbidity and mortality, particularly from cardiovascular and metabolic complications.[3] This case illustrates an atypical presentation of acromegaly with minimal phenotypic features and underscores the importance of biochemical screening[4] and appropriate imaging (Figure 1).

CASE PRESENTATION

A 37-year-old man presented for evaluation of fatigue and an unintentional 10-pound weight gain over one year despite regular exercise and adherence to a healthy diet. He also reported snoring, intermittent hyperhidrosis, and occasional morning hand paresthesias consistent with carpal tunnel syndrome. Family history was notable for autoimmune thyroid disease in multiple first-degree relatives.

Initial laboratory evaluation for thyroid dysfunction was unremarkable. However, total testosterone was low at 248 ng/dL, prompting further endocrine assessment. Serum prolactin was mildly elevated (55–59 ng/mL), and expanded pituitary testing demonstrated elevated insulin-like growth factor 1 (IGF-1) on two occasions (502–567 ng/mL; >3 standard deviations above the age-adjusted reference range).[4]

Subsequent oral glucose tolerance testing showed inadequate growth hormone suppression (baseline GH 2.76 ng/mL; nadir >1.7 ng/mL), confirming autonomous GH secretion.[5] Pituitary magnetic resonance imaging revealed an 8 × 5 × 9 mm right-sided hypoenhancing sellar lesion with mild deviation of the pituitary stalk and no compression of the optic chiasm (Figure 1).

Physical examination demonstrated subtle findings, including mildly enlarged, doughy hands without significant facial coarsening.

INTERVENTION AND FOLLOW-UP

The patient underwent transsphenoidal resection of the pituitary adenoma. The immediate postoperative growth hormone level was 0.8 ng/mL, consistent with biochemical remission.[6] Serum sodium levels remained within normal limits, and the postoperative course was notable only for mild epistaxis. Recovery was otherwise uncomplicated.

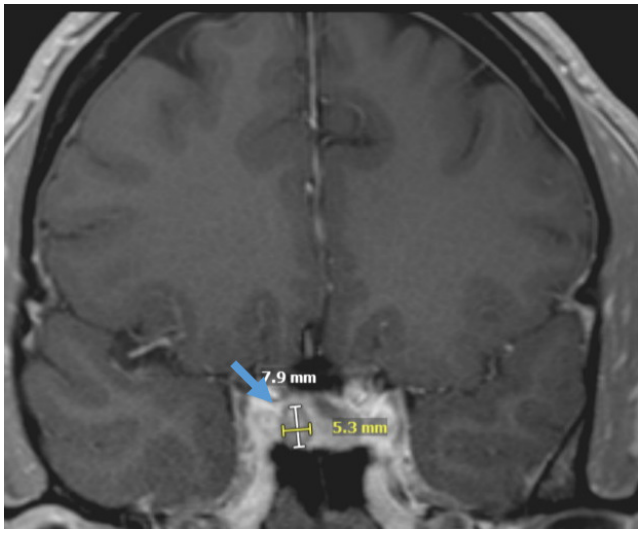

Figure 1. Pituitary microadenoma, with the blue arrow pointing to the sellar lesion.

Planned follow-up included repeat pituitary hormone testing and pituitary magnetic resonance imaging at three months postoperatively. Colonoscopy was recommended given the increased risk of colonic neoplasia associated with acromegaly.[7]

DISCUSSION

This case highlights several important clinical considerations. First, acromegaly may present with nonspecific symptoms such as fatigue, mild weight gain, and sleep-disordered breathing, often in the absence of classic physical findings.[2] Such subtle presentations contribute to delayed diagnosis and prolonged exposure to excess growth hormone.

Second, incidental endocrine abnormalities—including hypogonadism and mild hyperprolactinemia—may serve as early clues to underlying pituitary pathology or stalk effect. Recognition of these abnormalities should prompt comprehensive pituitary evaluation, including dedicated imaging.[1]

Third, measurement of insulin-like growth factor 1 (IGF-1) remains the most sensitive initial screening test for acromegaly, with confirmatory growth hormone sup-

pression testing required for diagnosis.[4] Failure of growth hormone suppression during oral glucose tolerance testing continues to represent the diagnostic gold standard.[5]

Finally, early detection enables effective surgical management. Transsphenoidal surgery is the first-line therapy and is associated with high remission rates, particularly in patients with microadenomas or small, noninvasive macroadenomas.[6]

CONCLUSION

Acromegaly should be considered in patients with persistent nonspecific symptoms accompanied by subtle endocrine abnormalities. Early biochemical screening and appropriate imaging are essential for timely diagnosis. Prompt surgical intervention can achieve biochemical remission and significantly reduce the risk of long-term complications.

REFERENCES

1. Melmed S. Acromegaly pathogenesis and treatment. *Journal of Clinical Investigation*. 2009;119(11):3189-3202. doi:10.1172/JCI39375

2. Holdaway IM, Rajasoorya RC. Epidemiology of acromegaly. *Pituitary*. 1999;2(1):29-41. doi:10.1023/A:1009965803750

3. Dekkers OM, Biermasz NR, Pereira AM, et al. Mortality in acromegaly: a meta-analysis. *Journal of Clinical Endocrinology & Metabolism*. 2008;93(1):61-67. doi:10.1210/jc.2007-1191

4. Katznelson L, Laws ER Jr, Melmed S, et al. Acromegaly: an Endocrine Society clinical practice guideline. *Journal of Clinical Endocrinology & Metabolism*. 2014;99(11):3933-3951. doi:10.1210/jc.2014-2700

5. Giustina A, Chanson P, Bronstein MD, et al. A consensus on criteria for cure of acromegaly. *Journal of Clinical Endocrinology & Metabolism*. 2010;95(7):3141-3148. doi:10.1210/jc.2009-2670

6. Fleseriu M, Biller BMK, Freda PU, et al. A Pituitary Society update to acromegaly management guidelines. *Pituitary*. 2021;24(1):1-13. doi:10.1007/s11102-020-01091-7

7. Colao A, Grasso LFS, Giustina A, Melmed S, Chanson P, Pereira AM. Acromegaly. *Nature Reviews Disease Primers*. 2019;5(1):20. doi:10.1038/s41572-019-0071-6