

MEDU3400
HUF2-25 Endocrine Tutorial I – Acromegaly

10 October 2023 (Tuesday)
2:30 – 3:15; Group s16A - s16H
3:30 – 4:15; Group s16I - s16P

A 62-year-old man consulted his family doctor because of a 6-month history of severe headache and excessive perspiration. Recently he became aware of changes in his peripheral visual vision and described it as objects disappearing suddenly as if fallen off a cliff. He had suffered from hypertension for 15 years, and occasional shoulder and hand joint pain which were diagnosed as osteoarthritis. Physical examination revealed coarse facial features, enlarged hands and feet, a prominent jaw and bitemporal hemianopia. His BP was 145/105 mmHg and glycosuria was detected. Because of his visual field defect, X-ray imaging of the head was performed and revealed a grossly enlarged pituitary fossa, consistent with a sellar mass.

Biochemical investigations revealed the following:

Plasma analyte	Concentration	Ref. Range
Glucose	8.6 mM	3.5 – 5.5 mM
LH	0.8 IU/L	0.7 – 6.0 IU/L
FSH	1.1 IU/L	<6 IU/L
Prolactin	480 mU/L	<425 mU/L
Testosterone	7.1 nM	10 – 35 nM
GH	9.0 mU/L	<10 mU/L
Cortisol (random)	260 nM	250 – 700 nM
TSH	0.5 mU/L	0.3 – 4.2 mU/L
FT4	10.2 pM	9.4 – 25.0 pM

Questions

1. What is the most likely diagnosis based on the clinical and radiological findings?
2. Suggest why the above biochemical investigations were performed and explain the findings.

A GH suppression test with an oral dose of 75 g glucose (OGTT) was given to this patient and the following results were obtained.

Time (min)	Glucose (mM)	GH (mU/L)
0 (fasting)	7.7	9
30	12.4	12
60	15.7	12
90	13.3	10
120	10.2	11

3. Give reasons for performing this test and interpret the findings.
4. How the clinical presentations of this patient are related to the underlying disorder? Explain your answers.
5. How could this patient be treated?

Suggested reading:

Acromegaly (2019) *Nature Review Disease Primer* Article 20.

<https://www.nature.com/articles/s41572-019-0071-6.pdf>

Acromegaly (2021) *BMJ Best Practice*

<https://bestpractice.bmj.com/topics/en-us/522/pdf/522/Acromegaly.pdf>