Pituitary atrophy: a rare cause of pan hypopituitarism

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Introduction

This is a rare case of hypo-pituitarism due to possible idiopathic pituitary atrophy

Various hypotheses were proposed to identify aetiology of idiopathic pituitary atrophy. Still definite cause is not known(1)

There are very few reported cases of idiopathic pituitary atrophy in literature but all had significant haemorrhage in the past unlike our patient. (**2)**

•Diagnosis can be easily missed due to nonspecific symptoms of the patient.

Case Summary

- Mrs B, 64 year lady who was referred by GP with extreme tiredness on minimal activities.
- She had past medical history of well controlled asthma (not on steroid inhalers), Hypothyroidism, and auditory hallucinations and osteoporosis.
- She had no h/o osmotic symptoms, dizziness or hyper pigmentation, headache, visual problem , galactorrhoea. And diurnal variation in her symptoms.
- She was not anaemic and clinically euthyroid. No significant drop on lying/standing BP. Her bedside visual field examination was normal.
- Despite improvement in TSH after thyroxine dose adjustment, she remained symptomatic .
- Short synacthen test confirmed adrenal insufficiency. Anti-adrenal antibodies were negative.
- She was started on hydrocortisone replacement at 10mg-5 mg-5mg .
- Baseline pituitary profile revealed low IGF-1. She had dynamic pituitary function test like glucagon stimulation test and further radiological investigations as mentioned below.

Management

Patient's tiredness did not improve despite adequate hydrocortisone replacement

Investigation consistent with GH deficiency and Growth replacement initiated according to NICE guidelines.

•AGHDA score showed improvement her symptoms

•Patient was monitored closely for side effects.

Investigations

Prolactin	153 **mU/L**
Free T4	17.4 pmol/L
TSH	<0.02 mU/L
LH	**2.5 U/L**
FSH	**5.7 U/L**
Oestradiol	**<70 pmol/L**
IGF-1	**6.9 nmol/L** (10-28.4)
Random Cortisol	**44 nmol/L** (1400 hrs)
SST (Short Synachthen Test)	Baseline cortisol **106 nmol/L** and post synacthen **166 nmol/L**
ACTH	**19** ng/L (0-47)

Glucagon stimulation test:

•Patient was euthyroid and had 9 am cortisol > 100 nmol/L

•Glucagon 1 mg IM given.

•GH and cortisol and glucose checked from 90 min , every 30 min until 240 min

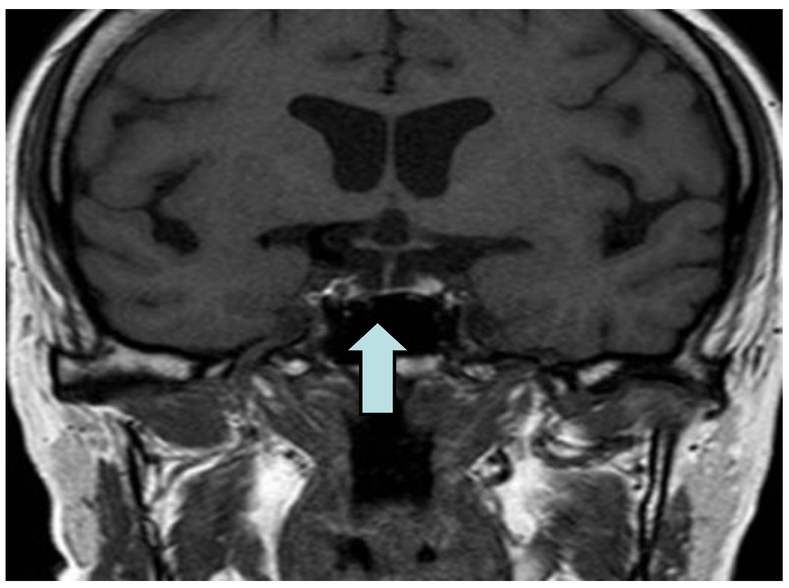
•Peak cortisol of 169 (normal response > 450 nmol/L) and peak growth hormone of 0.1 mcg/L noted (normal response is 7 mcg/ L)

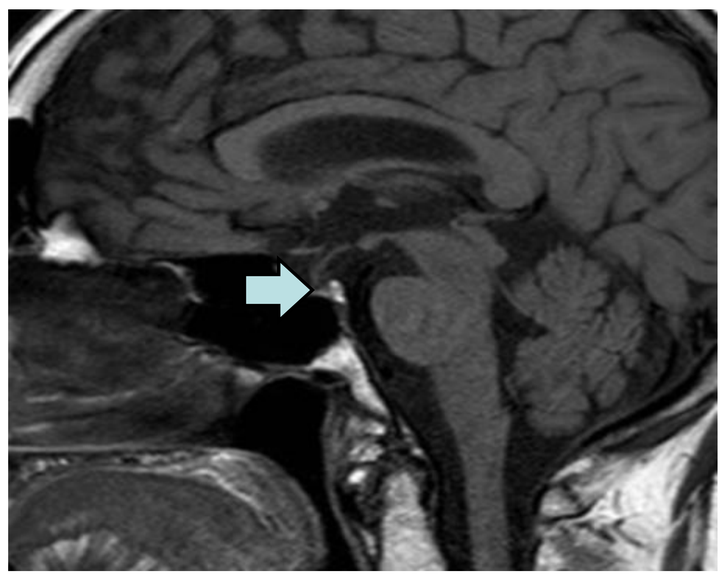
NICE criteria for GH replacement in adult (3)

•severe GH deficiency as shown on dynamic test-ITT or GST.

•Perceived impairment of quality of life as demonstrated on AGHDA score of at least 11.

•Already on other pituitary hormone replacement





MRI scan of pituitary

MRI Pituitary: Markedly atrophic pituitary gland which is hardly measurable. The pituitary stalk and optic chiasm appears normal. Sella not expanded. No suprasellar abnormality

•Impression- **Atrophic pituitary gland of unknown aetiology**

Discussion and Conclusion

•Idiopathic pituitary atrophy is rare and cause not known

•Previous studies in Japan has suggested role of anti pituitary antibodies which initially thought of effect of pituitary atrophy rather than cause. This needs further exploration. (**1)**

• Age related growth hormone decline always thought to be safety net of nature.

•This case underlies importance of maintaining balance between benefit and risk of growth hormone replacement, especially elderly population.

References:

1. Anti pituitary antibodies in patients with primary empty sella syndrome, mitsuhisa komatsu, Tokyo

2. Recurrent confusion and hypopituitarism, postgrad Med J (1993), N.J.Gutowski

3. www.nice.org.uk/guidance-Human growth hormone deficiency.

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