New onset Graves' disease as a cause of an adrenal crisis in an unrecognized empty sella syndrome

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INTRODUCTION

•A **66 year old woman** was admitted as an emergency with **vomiting**, **hypotension** and **serum cortisol of 0,92 microg/dl** indicative of adrenalfailure. She was found to be hyperthyroid [**free T4= 72 pmol/l**).

CASE REPORT

She had hypotension (blood pressure **80/40 mmHg**). She was fit and well till the age of 65.

Endocrine assessment revealed deficiency in ACTH-cortisol, growth hormone, and gonadotropin, as well as low-normal free T4.

On the day of his emergency admission he looked ill and dehydrated, though was fully conscious and cooperative. Heart rate was 110 beats/min (sinus rhythm), blood pressure 85/60 mm Hg.

There were no obvious features of infection, but there was marked tremor and thyroid bruit. She received treatment with intravenous fluids and hydrocortisone.

Administration of large dose of methimazole (**40 mg/day**) resulted in gradual decrease in free T4. Pituitary MRI showed **empty sella** [Fig 1].

The patiente was found to have increased titre of antithyroperoxidase (anti-TPO) and anti-TSH receptor (anti-TSHR) antibodies [2100 IU/l (ref. range <40) and 3.7 IU/l (ref. range <1.0), respectively].

She was referred for radioactive iodine treatment.

Iodine uptake scan performed prior to radioiodine administration confirmed uniformly increased iodine uptake consistent with Graves' disease (GD) [Fig 2].

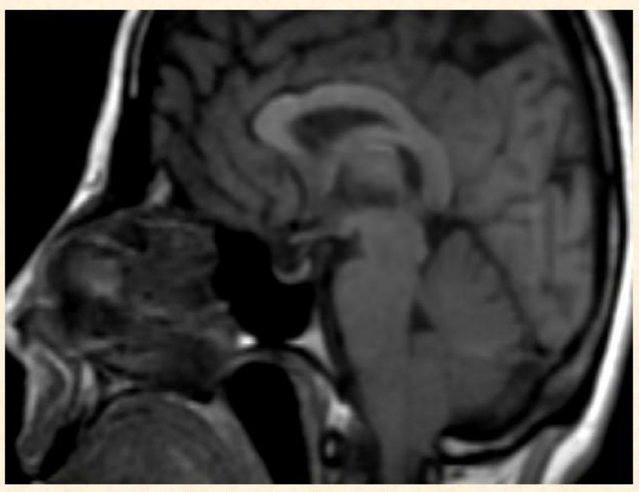

Fig 1 Pituitary MRI

Fig 2: Iodine uptake scan

DISCUSSION

- GD with concomitant hypopituitarism is rare but has been described previously, there are few reports of GD occurring with ESS [1].

•We encountered a patiente with unrecognized adrenocortical disease du to empty sella, in whom development of Graves' hyperthyroidism caused an adrenal crisis.

- Empty sella syndrome (ESS) in this case can be related to autoimmune hypophysitis.

•Concomitant pituitary deficiency and GD is seldom reported. TSH levels are typically low with pituitary deficiency; however, serum TSH measurements alone are insufficient for accurate diagnosis and free hormone levels should also be considered.

CONCLUSION

• Our case illustrates coexistence of hypopituitarism and clinically significant autoimmune thyroid disease. The presence of hypopituitarism does not preclude the development of autoimmune thyrotoxicosis. Our diagnosis was GD co-existing with empty sella syndrome. Hyperthyroidism unleashed acute adrenocorticotropic failure.

•We recommande to monitor symptoms of adrenal crisis in patients with hyperthyroidism and hypopituitarism.

References

1- Lewandowski KC and coll. New onset Graves' disease as a cause of an adrenal crisis in an individual with panhypopituitarism: brief report. Thyroid Res 2008, 19(1):7.

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