

# TSH-secreting pituitary adenoma treated conservatively with cabergoline for more than 10 years

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## BACKGROUND

Pituitary adenomas constitute approximately 10% of all intracranial tumors (1-4). Grossly, they are classified as microadenomas if their diameter is less than 10 mm or as macroadenomas if it is greater than 1 cm.

TSH secreting pituitary adenomas represent small proportion of functional pituitary tumours presenting as hyperthyroidism with elevated thyroid hormone levels and inappropriately normal or increased TSH concentration (2).

They are  $\geq 1$ cm in size and quite aggressive with tendency to relapse following transphenoidal adenomectomy (TSA) (3,4).

It is noteworthy that the number of reported cases tripled in the last years as a consequence of the routine use of ultrasensitive immunometric assays for measuring TSH levels (4).

Failure to recognize the presence of a TSH-oma may result in dramatic consequences, such as improper thyroid ablation that may cause the pituitary tumor volume to further expand.

Surgical resection remains gold standard in their definitive treatment while pharmacotherapy with long-acting somatostatin analogues or dopamine agonists has mainly adjunct role in pre-operative restoration of euthyroidism (5).

## CASE

A 44-year old premenopausal patient presented with mild thyrotoxicosis as repeated thyroid function tests have consistently shown slightly raised free T3 and free T4 in the presence of mid-normal TSH.

The SHBG was increased by more than 80% above normal range and the  $\alpha$ -SU/TSH ratio was equal to 6.4; equilibrium dialysis has excluded the presence of heterophile TSH antibodies.

On further investigations she had flat TSH response to TRH test and has failed to suppress TSH to  $\leq 0.1$  mU/L following liothyronine 20mcg QDS 10 days treatment.

The thyroid isotope scan has shown diffusely increased uptake of the thyroid gland; findings were inkeeping with autonomous TSH secretion rather than generalised/pituitary resistance to thyroid hormone or familial dysalbuminaemic hyperthyroxinaemia.

Subsequent pituitary MRI has shown calcified pituitary macroadenoma with suprasellar extension, away from the optic chiasm.

Considering mild thyrotoxicosis and patient's preference, it was decided to treat her conservatively. She was initially started on cabergoline 1mg twice weekly; repeated thyroid function tests 4 weeks later were normal.

Over the last 10 years she has been on cabergoline 500 mcg weekly maintenance dose; the TSHoma appearances have remained static on serial MRI scans.

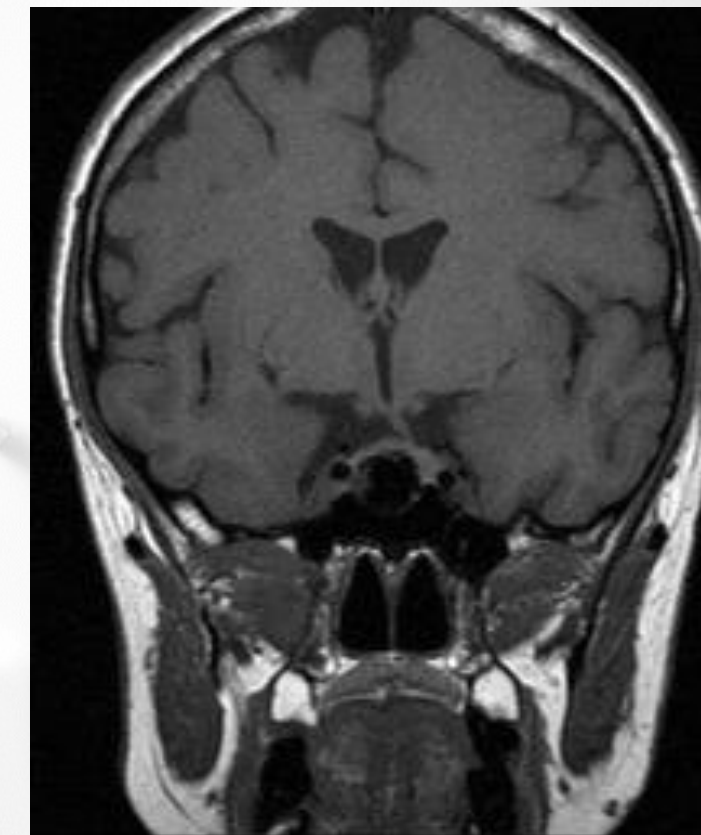


Fig. 1 MRI Pituitary: TSH-secreting pituitary macroadenoma after 10 years of medical treatment (coronal view)

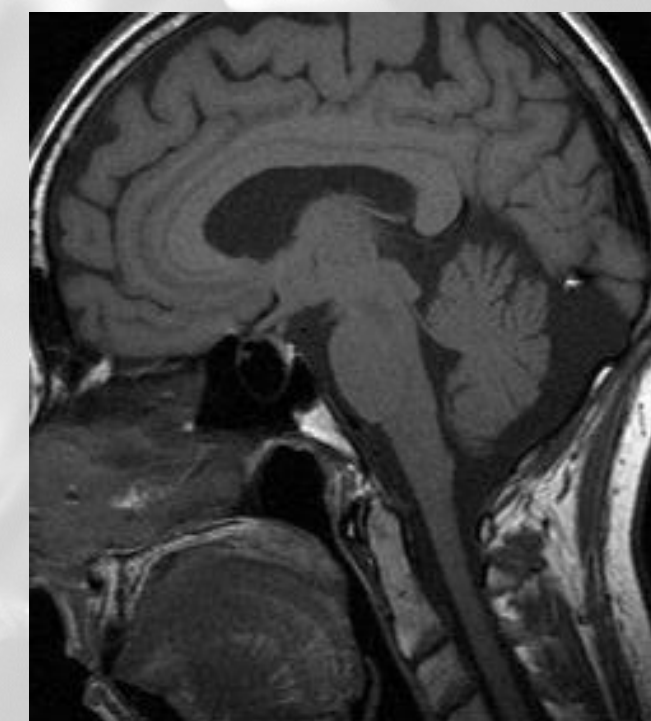


Fig. 2 MRI Pituitary following 10 years of cabergoline treatment (sagittal view).

## DISCUSSION

Our case illustrates the successful conservative management of TSHoma with relatively low dose of cabergoline. Clinicians are reminded to consider the low cost Cabergoline for the conservative management of TSHoma, when transphenoidal surgery is not a therapeutic option

	0 minutes	30 minutes	60 minutes
<b>TSH mU/L (0.3 to 4.7)</b>	2.48	3.17	3.03
<b>Prolactin mIU/L (0 to 450)</b>	13	87	103

Table 1. TRH test (500 mcg).

## REFERENCES

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