Co-existent Macro-prolactinoma, Raised Free T4 and Right Sided Facial Nerve Palsy

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Case:

- 47 year old ♂
- 3 day history of headache and vomiting
- Right facial paraesthesia and droop
- No 'endocrine' symptoms

O/E:

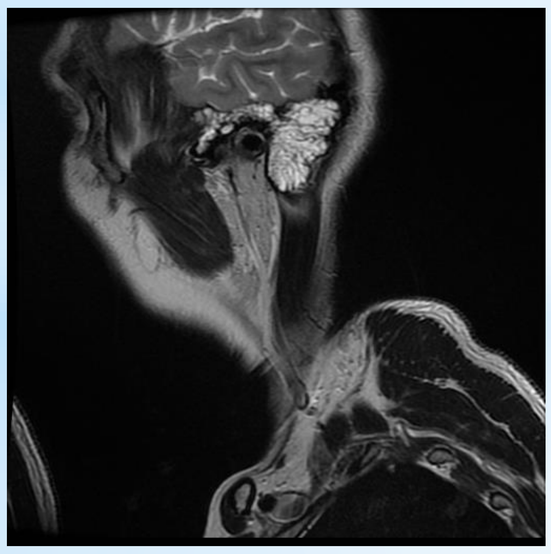
- Right lower motor neurone facial nerve falsy – Bell's sign
- Visual fields normal to confrontation

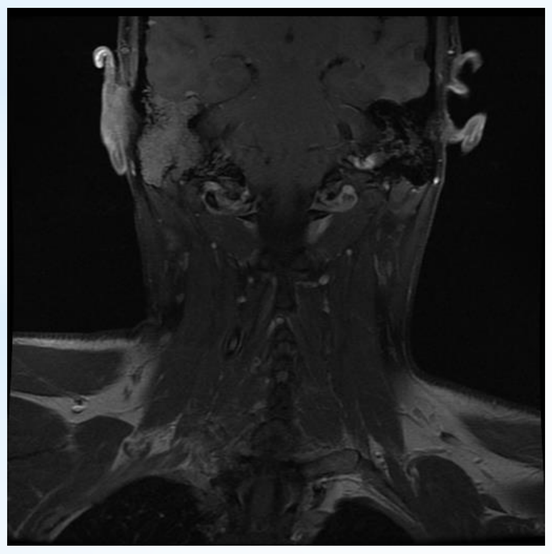
Investigations:

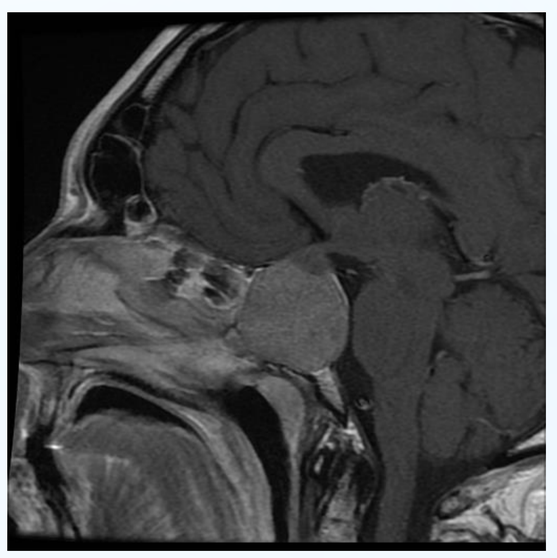
- CT head: 4.7 x 3.3 x 3.9cm enhancing lesion extending superiorly from the pituitary. Appearances are in keeping with a pituitary macroadenoma. Opacification of the right middle ear and mastoid air cells. Mass compressing facial nerve in the facial canal.

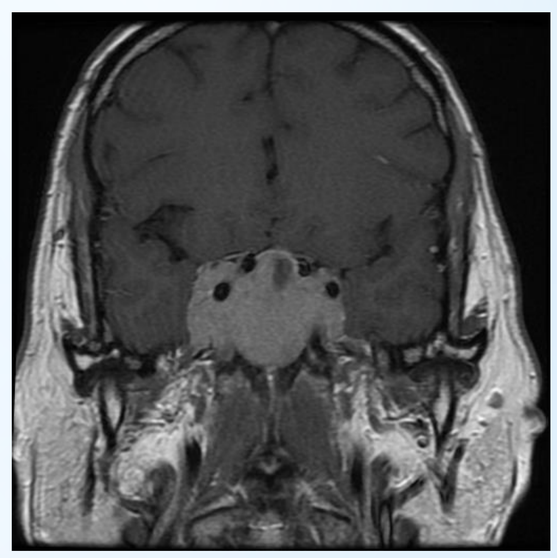
9am bloods	Value	Reference
Prolactin	95570 miu/L	50 - 400
LH	1 iu/L	1 – 9
FSH	1.1 iu/L	1 – 10
Testosterone	0.8 nmol/L	9.4 – 37
TSH	3.2 miu/L	0.3 – 5
fT4	118.9 pmol/L	9 - 25
Cortisol	428 nmol/L	

Above: *Blood test results.* ***Below:*** *Middle ear mass ?glomus tumour*



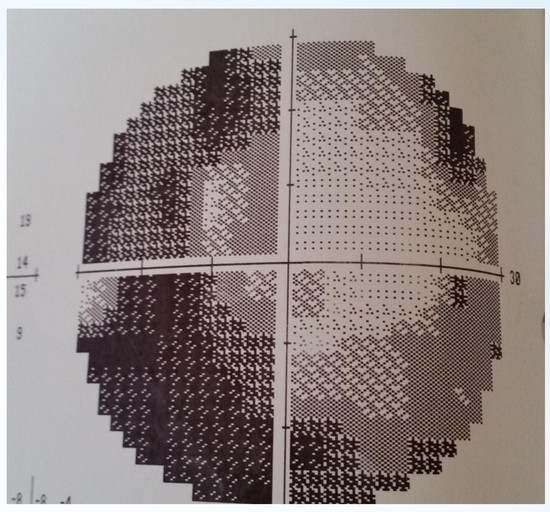


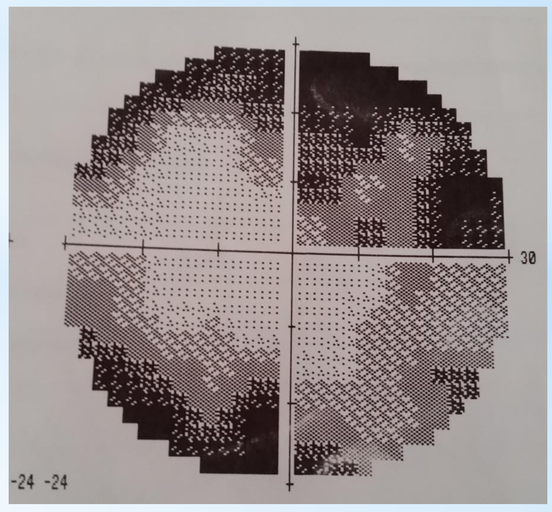




Above: *MRI showing 40 x 32 x47mm pituitary mass with compression of the optic chiasm and extension into the cavernous sinuses.*

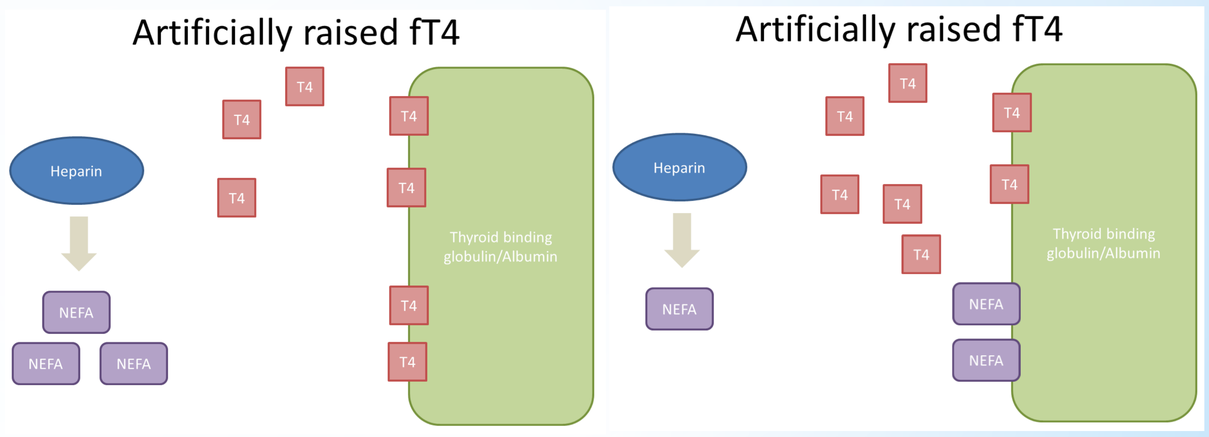
Below: *visual field defect caused by optic chiasm compression.*





Discussion:

- Macroprolactinoma – started cabergoline
- Possibility of co-secretion of TSH but no thyrotoxic symptoms – what can the cause of these results be?
- What about the low testosterone?
- What is the link between the middle ear glomus tumour and pituitary mass?



Conclusion:

- The tumour was not co-secreting TSH. Most patients get low molecular weight heparin as an inpatient and this interferes with the assay by activating endothelial lipoprotein lipase producing non-esterified fatty acids. This competes with the biding site for T4 on TBG/albumin during the assay creating a falsely raised fT4. Get around this by using another assay or re-checking TFTs once off heparin.
- Low testosterone will improve once prolactin reduces. No need to treat low testosterone
- Link between glomus tumour and pituitary tumour could be succinate dehydrogenase gene mutation. Currently begin investigated by the Ear, Nose and Throat team.

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