MACROPROLACTINOMA PRESENTING WITH PITUITARY APOPLEXY ASSOCIATED WITH MIDDLE CEREBRAL ARTERY INFARCTION IN AN ADOLESCENT MALE

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Background

Pituitary apoplexy is a clinical syndrome caused by haemorrhage of the pituitary gland, typically characterised by acute confusion, headache, vomiting and visual disturbance. It is regarded as a medical emergency. It is rare in childhood and adolescence, occurring in association with pituitary tumours. We report an unusual case of pituitary apoplexy associated with a cerebral infarction secondary to internal carotid artery compression.

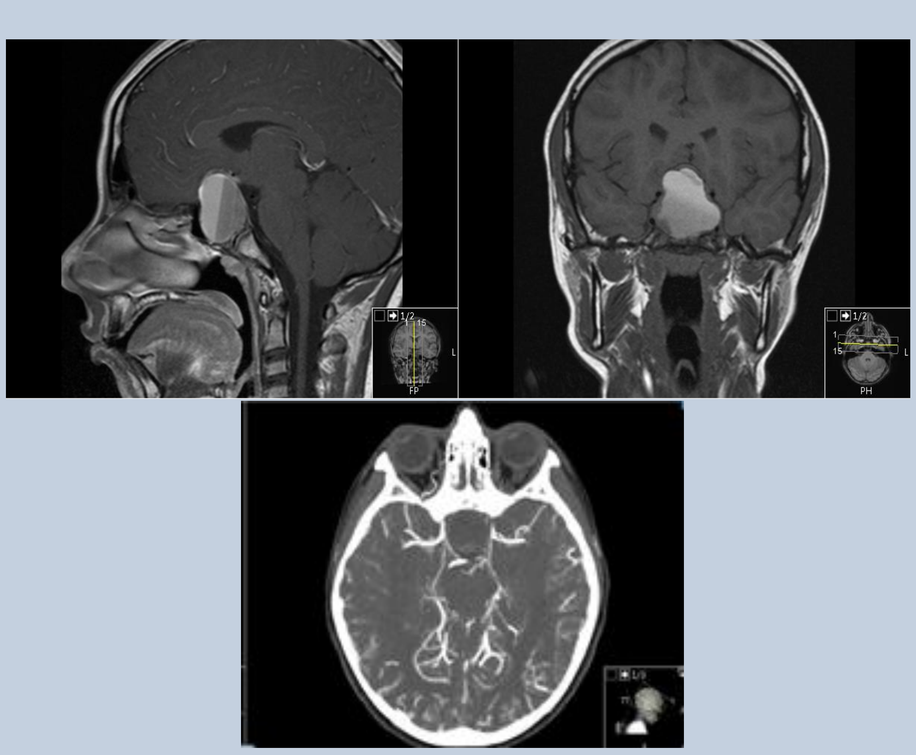
Case

- 16 year old male
- Presented with acute confusion, visual disturbance, slurred speech and right-sided weakness.
- Preceding 3 day h/o vomiting and worsening headache.
- Prior to this event, functioning at a good cognitive level
- Clinical assessment:
  - GCS 11:E4V2M5
  - Right sided increased tone and reduced power
  - Bi-temporal hemianopia
  - Delayed puberty (G3 PH2 TV5ml)
- Managed according to "stroke" guidelines.

Initial Investigations

Test	Result
TSH	1.0 (0.3-5.5mIU/L)
T4	5.5 (9-25pmol/L)
LH	<0.8 (1.5-9.3IU/L)
FSH	3.5 (1.8-10nmol/L)
Cortisol	494 (130-580nmol/L)
Prolactin (undiluted)	>4240 (110-410mIU/L)
Prolactin (x20 dilution)	87089
Plasma Osmolality	271 (280-295mmol/L)
Sodium	127 (135-145mmol/L)
IGF-1	19.1 (15.6-66.9nmol/L)
CT Head	3.5 x 2cm sellar/suprasellar mass
CT Angiography	Luminal occlusion of both internal carotid arteries secondary to tumour mass effect
MRI Brain/Pituitary	Pituitary apoplexy with haemorrhagic fluid levels. Ischaemic changes in left fronto-parietal, middle cerebral artery (MCA) region
Post-op MRI	Significantly debulked sellar/suprasellar mass with a maturing left MCA infarct

The above results were consistent with diagnosis of macroprolactinoma with TSH deficiency



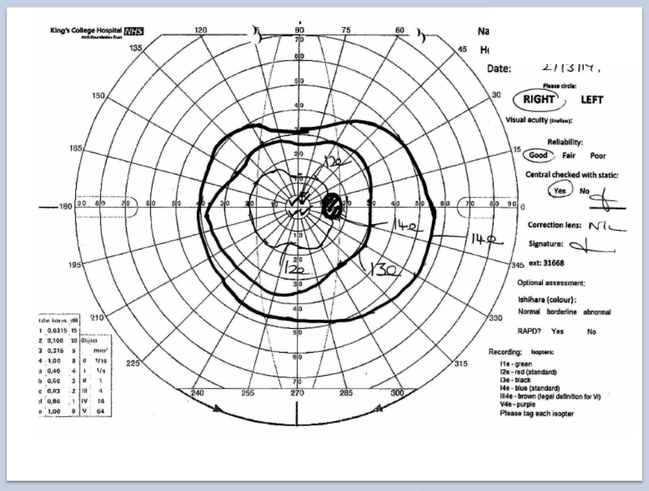
Pre-operative MRI and CT angiography

Initial Management

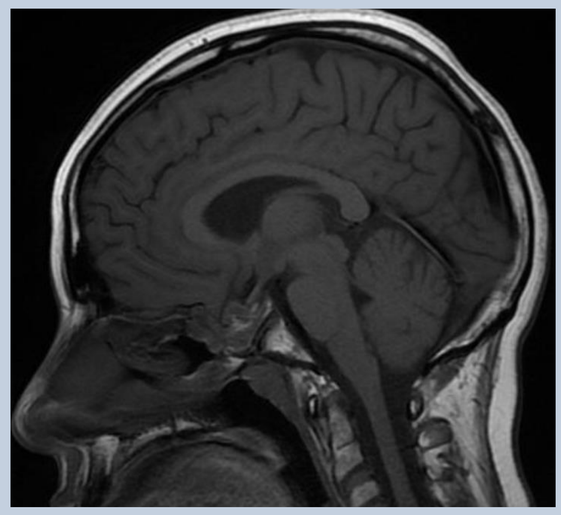
- 100mg IV Hydrocortisone STAT on admission
- In view of hyperprolactinaemia - 250micrograms oral Cabergoline given
- Endoscopic trans-sphenoidal debulking of tumour performed within 48 hours

Post op Investigations

Test	Result
MRI pituitary	Significantly debulked sellar/suprasellar mass with a maturing left MCA infarct
Histology	Pituitary adenoma with strong immunopositivity for prolactin with increased proliferation, Ki-67 index 7%.
Prolactin	Day 5 post op 3481mIU/L → 2 weeks post op 645mIU/L
TSH	0.2 (0.3-5.5mIU/L)
T4	13.1 (9-25pmol/L)
IGF-1	16.4 (15.6-66.9nmol/L)
Visual fields	Normal



Post-operative visual fields



Post-operative MRI pituitary

Post op Management

- Hydrocortisone maintenance dose
- Levothyroxine commenced
- Cabergoline dose titrated to prolactin response
- Neuro-rehabilitation assessments revealed significant cognitive difficulties
- Ongoing neuro-rehabilitation is integral to his ongoing care

Conclusion

- Cerebral infarction following pituitary apoplexy and internal carotid artery occlusion is rare.
- Assessment and knowledge of clinical, radiological and biochemical features of pituitary apoplexy is important in patients presenting with acute neurology.

Reference: Acute Ischaemic Stroke as a Manifestation of Pituitary Apoplexy in a You g Lady. *S. AFSAR PASHA et al. Journal of Clinical and Diagnostic Research 2017 May, Vol-11(5) OD03-OD05*.