North Middlesex University Hospital NHS
NHS Trust

EP74

# Hypopituitarism secondary to carotid artery aneurysm complicating a new presentation of hepatocellular carcinoma

**Lavanta Farouk, Janine Makaronidis, Chidambaram Nethaji, Anukul Garg**
**Diabetes and Endocrinology**
**North Middlesex University Hospital NHS Trust, London, United Kingdom**

## INTRODUCTION

An 82 year old gentleman was admitted with lethargy, shortness of breath and 26% total body weight loss over 2 years. Past medical history included hypertension, pulmonary fibrosis, thalassaemia trait and unexplained thrombocytopenia. Previous investigation for weight loss in 2014 with a CT thorax/abdomen/pelvis and FDG PET demonstrated no evidence of malignancy.

## INVESTIGATIONS

| | | |
|---|---|---|
| **Hb** | 69 g/L | (135 - 165) |
| **Platelets** | 115 | (135 - 420) |
| **Bilirubin** | 83 µ/L | (< 15) |
| **ALT** | 31 U/L | (10 - 37) |
| **AST** | 130 U/L | (10 - 37) |
| **ALP** | 165 U/L | (40 - 129) |
| **GGT** | 167 U/L | (0 - 55) |
| **Albumin** | 34 g/L | (35 - 50) |
| **Cortisol** | 276 nmol/L | |
| **ACTH** | 25 ng/L | (< 50) |
| **TSH** | 0.86 mU/L | (0.35 - 5.5) |
| **FT4** | 7.6 pmol/L | (10 - 22.7) |
| **Prolactin** | 8127 mU/L | (53 - 360) |
| **Testosterone** | < 0.3 nmol/L | (4.4 - 27) |
| **LH** | 0.2 U/L | (0.8 - 7.6) |
| **FSH** | 1.5 U/L | (0.7 - 11.1) |
| **IGF-1** | 2.7 nmol/L | (6 - 36) |
| **Ferritin** | 673 ng/ml | (22 - 322) |
| **AFP** | > 30,000 kU/L | (0 - 10) |

***Fig. 1***

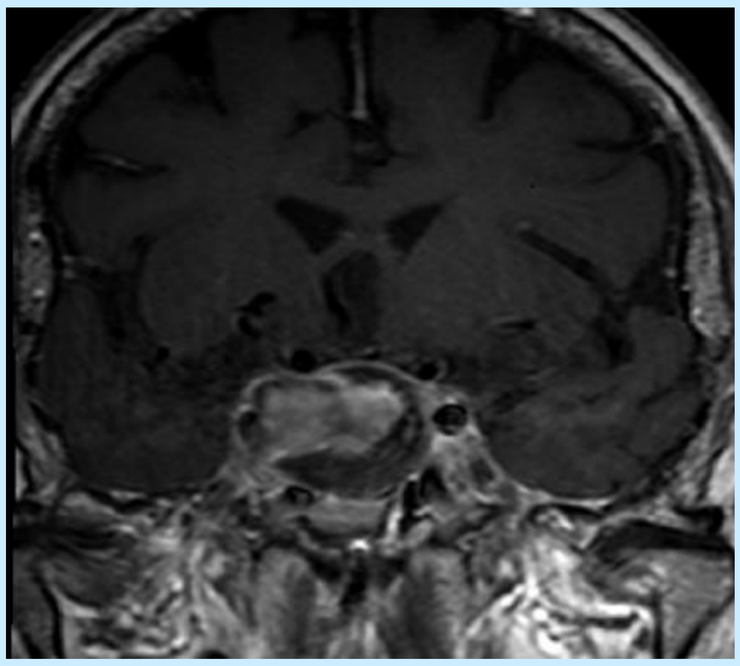

***Fig. 2***

- Discordant thyroid function tests prompted an anterior pituitary profile (*Fig. 1).*
- A gastroscopy, following an episode of melaena, demonstrated oesophageal varices.
- A CT thorax/abdomen/pelvis showed a portal vein thrombus and a 25mm ill-defined high density right liver lobe lesion suspicious of hepatocellular carcinoma (HCC). An MRI liver with contrast demonstrated cirrhosis and extensive portal vein thrombosis.
- An MRI pituitary scan showed a 26 x 29 mm partially thrombosed aneurysm of the right internal carotid artery (*Fig. 2* and *Fig. 3*).
- Subsequent CT angiography confirmed a partially thrombosed giant aneurysm from the cavernous segment of the right internal carotid artery extending into and expanding the pituitary fossa (*Fig. 4*).
- Therapeutic dose low molecular weight heparin was commenced after variceal banding.
- Hydrocortisone replacement was followed by levothyroxine.
- Neurovascular MDT discussion suggested conservative management in view of the poor prognosis.

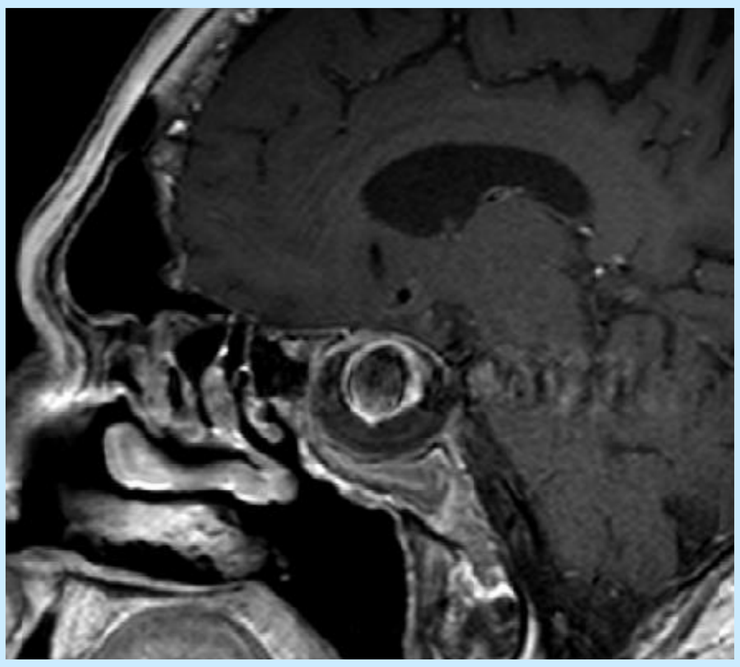

***Fig. 3***

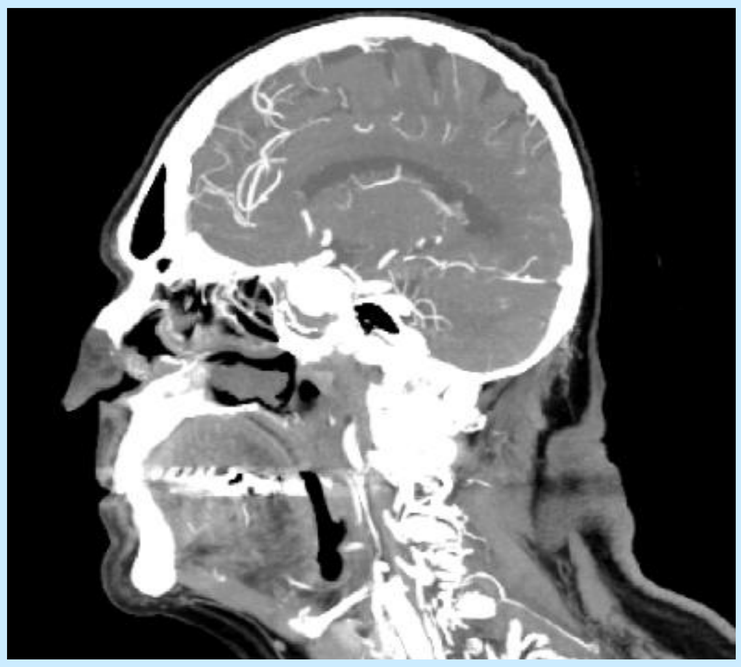

***Fig. 4***

## DISCUSSION

Giant carotid aneurysms are a rare cause of hypopituitarism with a prevalence of 0.17%, usually causing irreversible hypopituitarism.[1] Intracranial aneurysms may mimic pituitary adenomas in both appearance and behaviour and should be considered as a differential diagnosis of hypopituitarism and hyperprolactinaemia.[2] Pre-operative diagnosis is vital for a successful outcome in those undergoing surgery, as erroneous diagnosis of an adenoma could potentially result in severe peri-operative haemorrhage.[1,3] Definitive diagnosis is often reached with computed tomography angiography to demonstrate arterial enhancement and direct communication with the internal carotid artery[3], as was seen in the case we present.
This is a rare and interesting case of hypopituitarism secondary to a carotid artery aneurysm complicating a new presentation of hepatocellular carcinoma. There are approximately 40 cases of hypopituitarism due to cerebral aneurysm reported in the literature[2] and one case described as a first presentation of a gastric carcinoma.[4] However, to our knowledge, this is the first reported case of a giant carotid artery aneurysm associated with hepatocellular carcinoma or portal vein thrombosis.

## References:

1 Heshmati HM, Fatourechi V, Dagam SA, Piepgras DG. Hypopituitarism caused by intrasellar aneurysms. Mayo Clinic Proceedings. 2001. 76 (8):789–793.2
2 Gungor A, Gokkaya N, Bilen A, Bilen H, Akbas EM, Karadeniz Y, Eren S. Pituitary insufficiency and hyperprolactinemia associated with giant intra- and suprasellar carotid artery aneurysm. Case Rep Med. 2015 Jul 12.
3 Lawson EA, Buchbinder BR, Daniels GH. Hypopituitarism associated with a giant aneurysm of the internal carotid artery. J Clin Endocrinol Metab. 2008 Dec;93(12)
4 Yang C, Zhang H, Zhang S et al. Oculomotor Paralysis, Postorbital Pain, and Hypopituitarism as First Presentations of Metastatic Gastric Cancer in the Pituitary Flourished by Internal Carotid Aneurysm: A Case Report. Medicine. 2015;94(50):e2317

BES2016 74--EP
Neuroendocrinology and pituitary
Lavanta Farouk
DOI: 10.3252/pso.eu.BES2016.2016
Poster presented at: SfE BES 2016 7-9 November BRIGHTON
PosterSessionOnline.com