

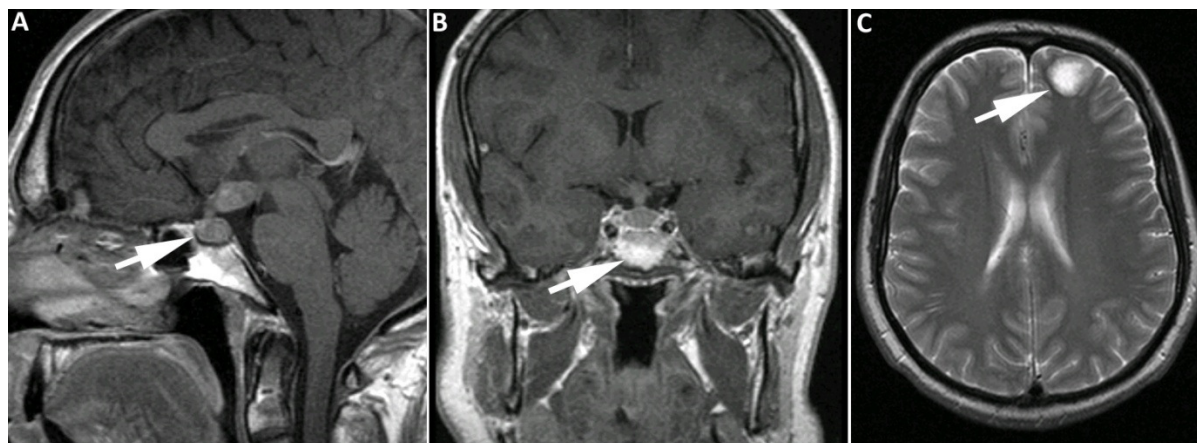
Pituitary metastasis: an unusual cause of hypopituitarism

Yared N Demssie, Kavita Kulavarasalingam, Mohit Kumar, Akheel Syed

Clinical—A 51-year-old man was referred to our endocrine clinic with symptoms of erectile dysfunction and loss of libido of 4 months duration. He was otherwise asymptomatic and general physical examination was unremarkable. Initial investigation revealed secondary hypogonadism and further assessment of full pituitary hormonal profile showed panhypopituitarism including central diabetes insipidus. He was started on hydrocortisone, thyroxin and testosterone replacement therapy along with oral desmopressin.

Subsequent investigation with magnetic resonance (MR) imaging of the brain revealed an enhancing pituitary mass and three subcortical ring enhancing masses involving the left frontal lobe (Figure 1, Panels A, B and C). A whole body computed tomography scan showed a large right middle lobe primary tumour and extensive bilateral pulmonary metastasis. CT scan guided bronchial biopsy of the primary tumour confirmed adenocarcinoma of the lung.

Figure 1. Panels A and B show an enhancing pituitary mass abutting on the optic chiasm and panel C shows a ring enhancing mass in the left frontal lobe (white arrows)



The patient has been treated with a course of chemotherapy and cranial radiotherapy. He remains stable 24 months after diagnosis except for episodes of generalised seizures which have been adequately controlled with sodium valproate.

Discussion—Symptomatic pituitary metastasis is a very rare clinical entity but latent metastasis is much more commonly encountered in autopsy series. Breast and lung cancer are the two most common cancers that metastasise to the pituitary gland.

The posterior pituitary is reported to be the most common site of metastasis and hence central diabetes insipidus is one of the most common clinical manifestations. Other presenting symptoms include visual field defect, opthalmoplegia, headache and symptoms of anterior pituitary hormonal deficiency such as excessive tiredness, reduced libido, erectile dysfunction and amenorrhoea.

Clinical and radiological distinction from other non-functioning pituitary tumours is difficult but the diagnosis should be suspected in older patients with rapidly progressing neuro-ophthalmologic symptoms and central diabetes insipidus.

Treatment is palliative but subtotal resection could be undertaken for patients with neuro-ophthalmologic symptoms. Conventional radiotherapy and gamma knife stereotactic radiosurgery have also been utilised for symptom relief and local tumour control.

The overall prognosis is poor with a reported mean survival between 6–7 months and only 10% of patients surviving beyond 1 year.

Learning points

- The finding of secondary hypogonadism should prompt a complete assessment of pituitary hormonal function along with pituitary imaging to rule out hypopituitarism and pituitary mass lesion respectively.
- Pituitary metastasis should be considered as a differential diagnosis of a non-functioning pituitary tumour in patients with central diabetes insipidus and rapidly progressing neuro-ophthalmologic symptoms.

Author information: Yared N Demssie, Consultant Endocrinologist; Kavita Kulavarasalingam, Specialist Trainee in Endocrinology; Mohit Kumar, Specialist Trainee in Endocrinology, Department of Endocrinology and Diabetes, Royal Blackburn Hospital, Blackburn, United Kingdom.

Akheel Syed, Consultant Endocrinologist, Department of Endocrinology, Salford Royal Hospital, Salford; University of Manchester, Manchester, United Kingdom.

Correspondence: Dr Yared N Demssie, Department of Endocrinology and Diabetes, Royal Blackburn Hospital, Haslingden Road, Blackburn BB2 3HH, United Kingdom. Fax: +44 (0)125 4736032; email: Yared.Demssie@elht.nhs.uk

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