

Tension pneumocephalus after administration of two 0.25 mg cabergoline tablets in MEN1-related macroprolactinoma

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DESCRIPTION

A 28-year-old man diagnosed with multiple endocrine neoplasia type 1 (MEN1) was referred to us for medical treatment of macroprolactinoma. His serum prolactin level was 8071 ng/mL in diluted sample and brain MRI showed an invasive lobulated giant pituitary tumour (5.0×4.3×5.2 cm) with cystic lesions (figure 1A,B). His visual field was intact. Weekly treatment with 0.25 mg cabergoline was initiated. After 2 weeks, he had a headache and cerebrospinal fluid (CSF) rhinorrhoea. Repeated MRI revealed pneumocephalus (figure 1C). Cabergoline was discontinued and he was admitted for treatment, which included prophylactic antibiotics. CSF rhinorrhoea recurred with severe headache and vomiting, and he became delirious. Intracranial air was markedly increased on brain CT (figure 1D), thus the sella

floor defect repair and spinal drainage were performed. He recovered fully from the delirium without complication. Two months after surgery, cabergoline therapy at a very small dose (0.125 mg/2 weeks) was reinitiated. His course remained uneventful without recurrence of CSF rhinorrhoea despite a considerable reduction in the size of his prolactinoma with increasing doses of cabergoline (up to 9 mg/week).

Dopamine agonist treatment is recommended to inhibit prolactin levels, decrease tumour size and restore gonadal function in patients with prolactinoma.¹ CSF rhinorrhoea is a well-recognised complication of dopamine agonists. Macroprolactinomas are the only tumours reported to cause dopamine agonist-induced CSF rhinorrhoea.² Because CSF rhinorrhoea resulting from shrinkage of invasive

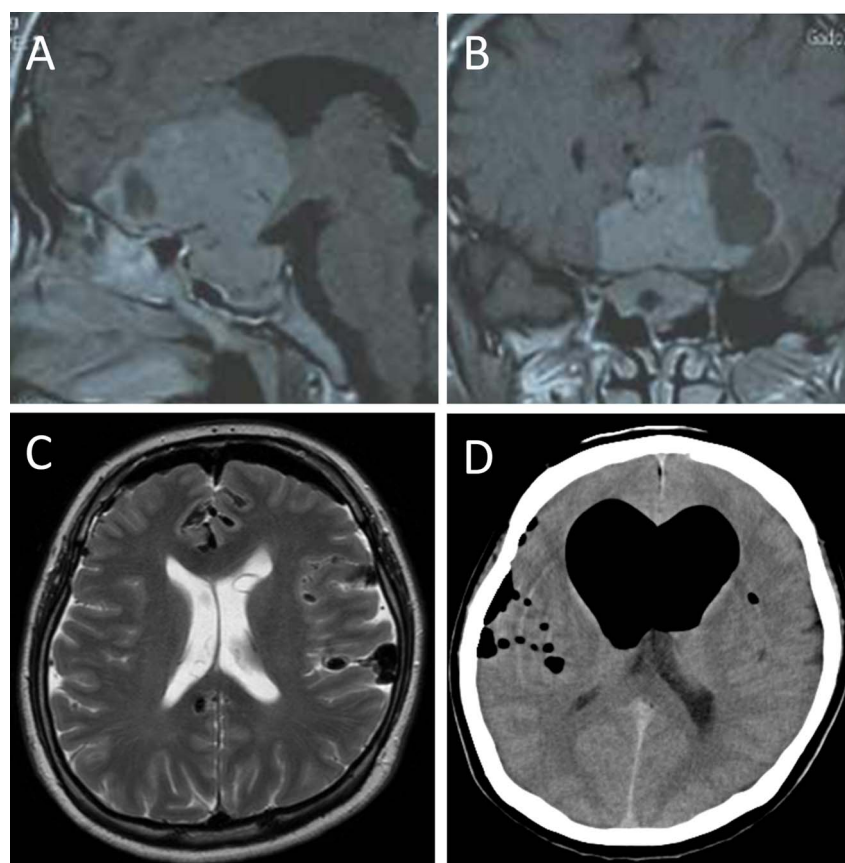


Figure 1 Brain MRI after gadolinium enhancement before cabergoline treatment showed an invasive, lobulated macroprolactinoma with cystic lesions (A, sagittal section; B, coronal section). (C) Brain MRI showed air in the subarachnoid spaces and (D) brain CT revealed an extensive accumulation of air in the intraventricular and subarachnoid spaces.

To cite: Nanba K, Usui T, Nakakuki T, et al. *BMJ Case Rep* Published online: [please include Day Month Year] doi:10.1136/bcr-2013-009986

macroprolactinomas can lead to serious complications such as meningitis and tension pneumocephalus,³ prompt surgical therapy should be considered to prevent further complications.³

Learning points

- ▶ Cabergoline is the first-line treatment for prolactinoma.
- ▶ Pneumocephalus is the one of the adverse effect of cabergoline treatment against macroprolactinoma.
- ▶ The very tiny dose of cabergoline can cause severe pneumocephalus.

surgical therapy for the patient. AS is the attending physician of the patient and who took care of the patient.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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Contributors KN took care of the patient as a resident and drafted this manuscript. TU drafted this manuscript as a corresponding author. TN performed

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