

Empty sella syndrome: Incidental findings at computerised tomography

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Abstract

A 43-year old female patient presented with severe dizziness, neck pain and headache. Clinical examination revealed diplopia with a horizontal gaze.

Plain skull radiographs showed an enlarged sella turcica with no abnormal intracranial calcifications. Pre and post contrast axial and post contrast coronal computerised tomography scans through the sella turcica were done. An enlarged sella turcica filled with cerebrospinal fluid was demonstrated.

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CLINICAL FINDINGS

The patient a 43 year old female, initially presented with fever, headache and neck pain. There was no associated vomiting. A clinical diagnosis of malaria was made. She was treated with antimalarials and later improved. After treatment the patient became dizzy which was attributed to the quinine tablets. Eventually the dizziness worsened and cranial computerised tomography scan was requested.

Some laboratory results were as follows:

Haemoglobin = 11.6 gm per decilitre
ESR = 21 mm in the first hour (by the Western method).
Random Blood sugar 94 mg per decilitre.

Lateral, anteroposterior and coronal views of the sella turcica were done. The plain skull radiographs showed an enlarged sella turcica measuring 24 mm x 16 mm. There was no bone erosion demonstrated. The posterior clinoid processes appeared elevated. There were no intracranial calcifications seen. The rest of the skull bones appeared normal. The computerised tomography scan pictures are shown in figures I - III

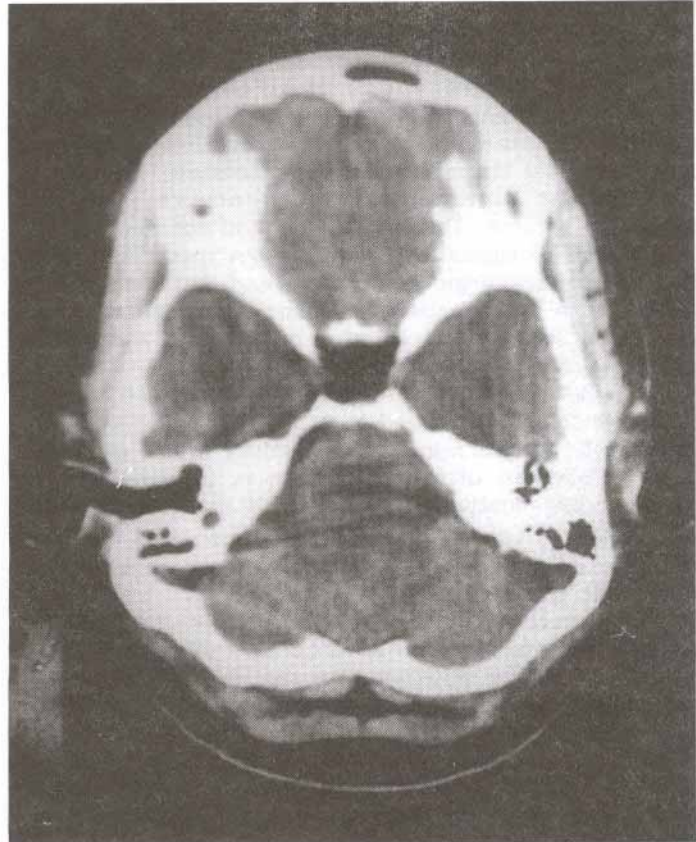


Figure I: Non contrast axial computerised tomography pictures showing an enlarged sella turcica filled with material of cerebrospinal fluid attenuation

Empty sella syndrome refers to findings of an enlarged sella turcica that is filled by an enlarged suprasella subarachnoid space extending into the intrasella region. The pituitary gland is compressed and flattened in the postero-inferior region of the pituitary fossa.

Abnormal visual and neurological findings may develop in patients with secondary empty sella syndrome. This condition results from surgery or irradiation of pituitary tumour². In this patient, there was no history of surgery or irradiation.

Plain radiographic findings include symmetrical ballooning of the sella turcica. The sella is of normal shape and with no evidence of bone erosion^{1,2,3}.

Empty sella used to be diagnosed by air studies by demonstrating air entering the intrasella space in the sitting or brow - up position.

However, with the advent of computed tomography, empty sella syndrome is now reliably established by CT^{1,2}. The detection of cerebrospinal fluid density extending into an enlarged sella turcica with no evidence of the abnormal intravenous enhancement is a characteristic finding.

In the differential diagnosis one should bear in mind cystic intrasella tumours, intrasella cyst, anterior dilated intrasella 3rd ventricular recess.

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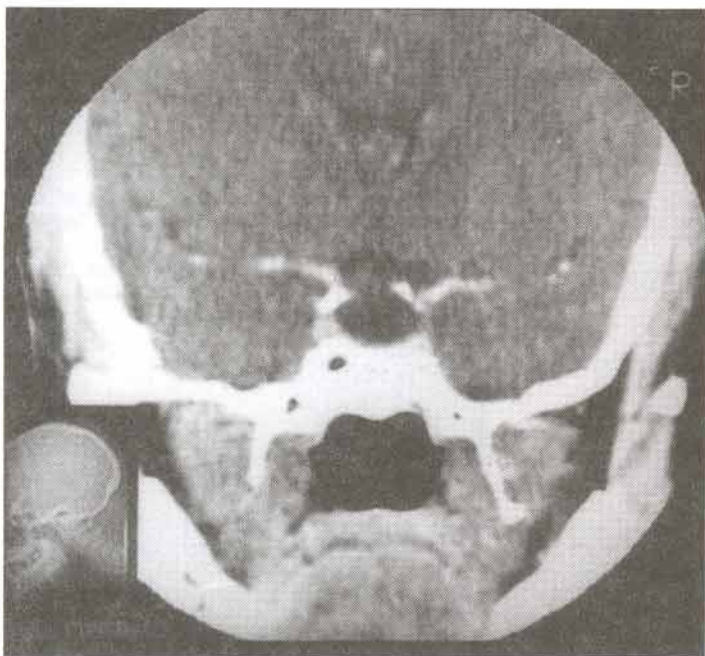


Figure II: Post contrast coronal CT scan picture of the sella turcica demonstrating intra sella cerebrospinal fluid

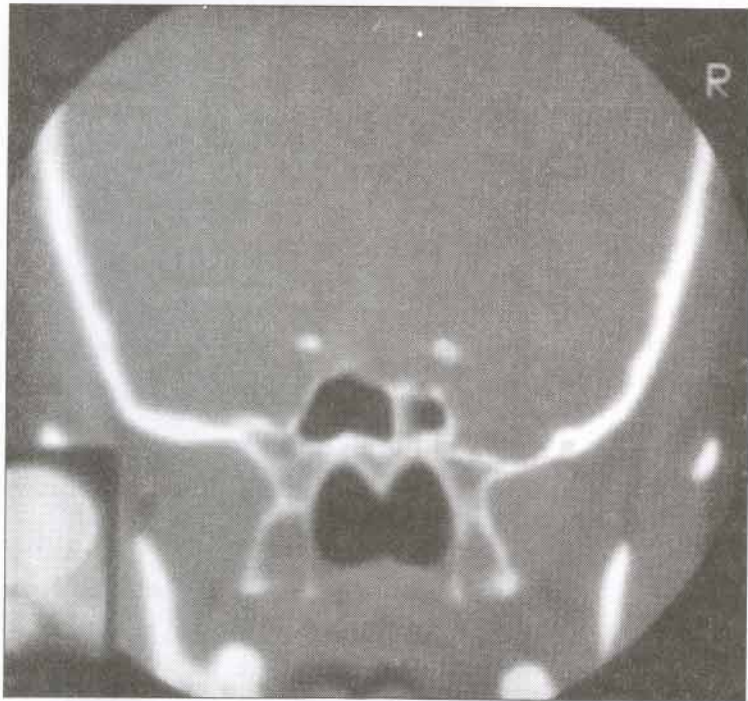


Figure III: Bone window coronal CT scan picture of the sella turcica showing no evidence of bone erosion.