Post operative pituitary apoplexy in a case of giant pituitary adenoma

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Abstract

Giant pituitary adenomas are relatively rare and their management challenging. This article presents such a case, which developed post operative pituitary apoplexy. The case details and the pertinent literature are discussed.

INTRODUCTION

Giant pituitary adenomas are relatively rare tumors and their management complex and challenging [1]. Most present with a combination of visual and endocrinological dysfunction [2]. Surgical approach could be trans sphenoidal, trans cranial, or a combination of the two [3]. While total excision has been reported, the occurrence of complications, especially pituitary apoplexy, and the generally poor prognosis following this are reported sporadically but well documented [2, 4, 5]. This article presents one such case and reviews the literature.

CASE REPORT

A 49 years old Tanzanian, was referred to our institution as a case of giant pituitary adenoma, which was diagnosed about a year back in Tanzania, where he had sought medical advice for visual problems.

Examination revealed a well built, obese individual, with gynaecomasia, visual defects in the form of no PL in the left eye and 3/60 vision in the lower nasal quadrant of the right eye, and bilateral POA in both fundi.

Plain x ray skull lateral showed a ballooned sella. Plain and contrast enhanced CT of the brain showed a large sellar, supra sellar and intra sphenoidal sinus mass, extending up to the level of the corpus callosum, with no hydrocephalus. MRI (plain and contrast enhanced) and MRA confirmed the same. His hormonal work-up was within normal limits.

Figure 1

Pre operative contrast enhanced CT

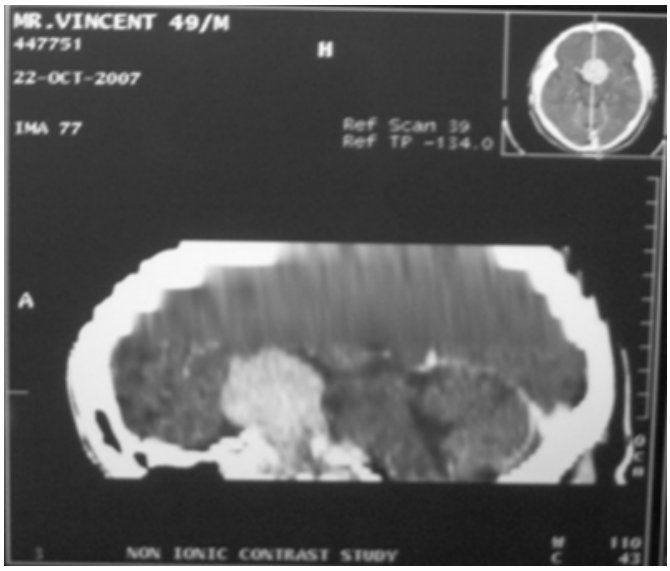
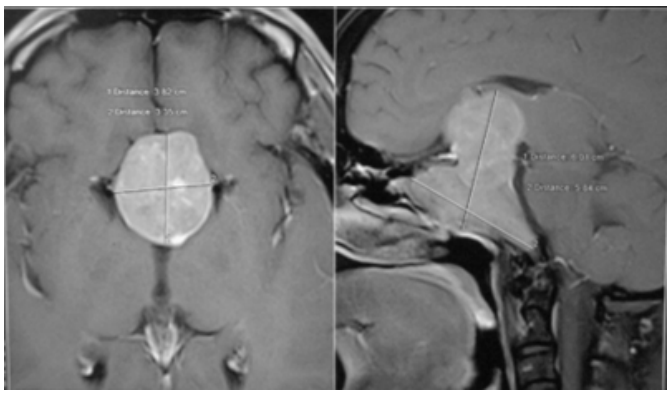


Figure 2

Pre operative contrast enhanced MRI



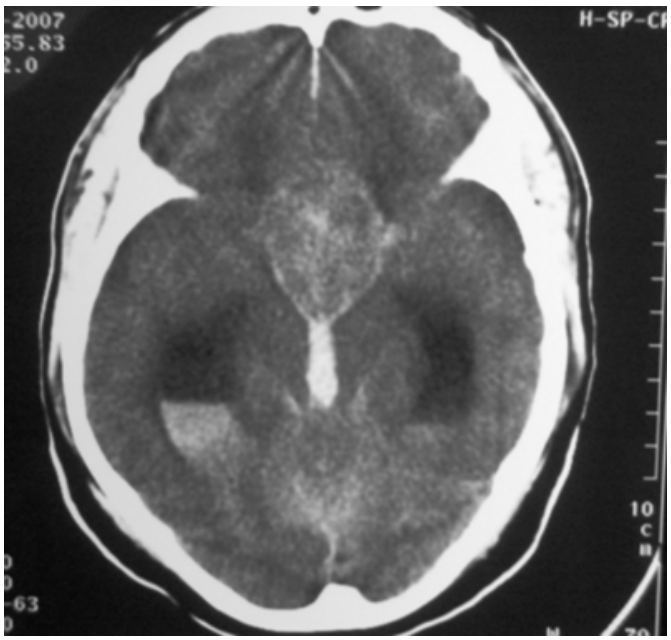
He was adequately prepared with steroids and intra nasal

antibiotics and taken up for a trans sphenoidal approach to the mass. The tumor was encountered in the sphenoidal sinus itself as expected. It was quite vascular and very fibrous, thus limiting the surgery to the sphenoidal and sellar portion of the tumor. He was kept sedated and ventilated post operatively; during the times he could be assessed when light on sedation, he was conscious with no focal neurological deficit. Biopsy was reported as typical of pituitary adenoma.

About 14 hours post surgery, he suddenly developed hypotension, which required ianotrophs. Within half an hour, he became totally unconscious (GCS 3/15), with dilated and non reactive pupils. He soon developed features of frank diabetes insipidus, which was appropriately tackled. Plain CT scan brain, once he was stable to be shifted, showed intra tumoral bleed, enlarging the adenoma; there was also pan ventricular hemorrhage with hydrocephalus.

Figure 3

Post operative plain CT



Bilateral frontal EVDs were inserted, with no subsequent improvement. He was soon assessed to be brain dead and expired after 24 hours of the ictus.

DISCUSSION

Pituitary adenomas whose size exceeds 4 cms are called giant pituitary adenomas [5]. Giant pituitary adenomas are not special entities by themselves but unusual examples of locally invasive tumors [2] . These tumors present with higher frequency of ophthalmic and endocrinological dysfunctions, with poor results following surgical treatment [2].

Initial surgical route is trans sphenoidal, followed by trans cranial, in case of lateral extension [3] or a combination of both. It is best to avoid aggressive surgery; partial resection followed by irradiation, combined with shunt procedure, if hydrocephalus is present, is ideal [1, 5].

Post operative pituitary apoplexy carries a very poor prognosis [4] . This is characterized by worsening of vision, deterioration in conscious level and/or hormonal dysfunction.

The possible reasons for the apoplexy are 1. the rapidly growing adenoma outstrips blood supply, leading to ischemic necrosis of the gland; 2. the large tumor itself may distort the infundibulum, thus compromising blood supply; leading to gland ischemia, with secondary bleeding; 3. the sudden release of perforating vessels from the internal carotids, after tumor de-bulking, can also lead to post operative bleeding; 4. The manipulation of the tumor during surgery can lead to post operative swelling and break through bleeding.

Giant pituitary adenomas are difficult entities to treat and a less aggressive surgical approach seems an appropriate way to tackle these tumors.

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