Pituitary apoplexy in pregnancy: a case report

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Introduction

IPituitary apoplexy is the sudden haemorrhage into the pituitary gland, a rare condition. Pregnancy promotes the growth of pituitary lactotroph adenomas, normal pituitary glands also increase in size[2]. Surgical decompression is often offered to patients with severe visual or neurological symptoms, these symptoms may resolve spontaneously with reabsorption of the haemorrhage post treatment. In most cases, onset is rapid and therefore urgent surgical decompression is described as effect for resolution of symptoms[1].

We present a case of a well primip at 31 weeks' gestation who developed a headache and gradual loss of vision over several weeks, with a bitemporal hemianopia on examination. An urgent MRI brain confirmed suspicion of pituitary apoplexy. She was booked for an emergency surgical decompression, steroid-loaded in the event of clinical condition necessitating delivery, and treated with glucocorticoid coverage and thyroxine. Interestingly, the patients father had a similar episode earlier in life, and is now on lifelong therapy for this. We discuss here the subacute progression of her symptoms, likelihood of resolution and recommendations for future pregnancies.

Case Presentation

A A previously well 28 year old primigravid woman of Tongan descent at 31 weeks' gestation, presented to an optometrist with a 1 week history of worsening right sided headache, and blurry vision in her peripheries, gradually worsening. A formal visual field test at Sydney Eye Hospital showed a bitemporal hemianopia. After discussion with neurology at a tertiary centre, the patient was transferred for an urgent MRI brain. A neurological examination was grossly normal, with only the left temporal hemianopia appreciable to confrontation, and left eye colour desaturation. The MRI brain showed an enlarged pituitary gland, 20 x 15 x 19 mm (12mm is normal in pregnancy[2]), with evidence of haemorrhage within a presumed pre-existing pituitary macroadenoma, this haemorrhage extended significantly impinging the optic chiasm (Figures 1 & 2).

Dexamethasone was commenced as well as thyroxine replacement for glucocorticoid cover and borderline low T4 levels after consultation with endocrinology, the patient was also covered with betamethasone as per protocol should she require urgent delivery as per the Obstetric team. Pre-operative pituitary panel showed a high prolactin likely from stalk compression. Neurosurgical and otolaryngology teams arranged a transphenoidal resection of the pituitary adenoma and decompression on the emergency theatre list. The procedure was performed the following day, with a large volume of blood egressed. Post-operatively she was admitted to the neurosurgical high dependency unit, with neurological observations, strict fluid balance, monitoring and fetal cardiotocographic monitoring. Important peri-operative management included prevention of hypocortisolism with glucocorticoid cover, and monitoring for diabetes insipidus and syndrome of inappropriate anti diuretic hormone. In the post-operative period this patient developed a cerebrospinal fluid leak, which was treated with a lumbar drain for 5 days. A post-operative formal visual field test suggested no residual quadrantopia. A follow up MRI demonstrated an ongoing large cystic pituitary mass causing compression of the optic chiasm (Figure 3). Her prolactin on admission was 3206mIU/L, and post procedure 1946mIU/L, levels this high could be from either excess production from prolactinoma or disinhibition caused by compression of the pituitary stalk in this case.

This patient was discharged home after stabilisation, and an elective caesarean section was planned for 38 weeks gestation, with a plan for increasing glucocorticoid cover in the peripartum period, this was uncomplicated and both the patient and her newborn are doing well. The histopathology results from the resection showed evidence only of a normal pituitary gland that was inflamed, with no adenoma within the sample collected intra-operatively. She will have a repeat pituitary axis panel and follow up with endocrinology, neurosurgical and otolaryngologic review at the time of this report.

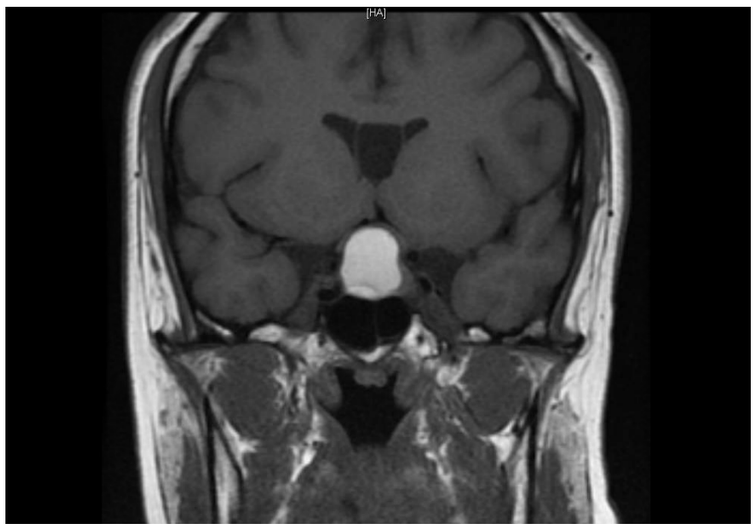

Figure 1 :Cor T2 , high intensity uptake indicative of haemorrhage in the pituitary fossa

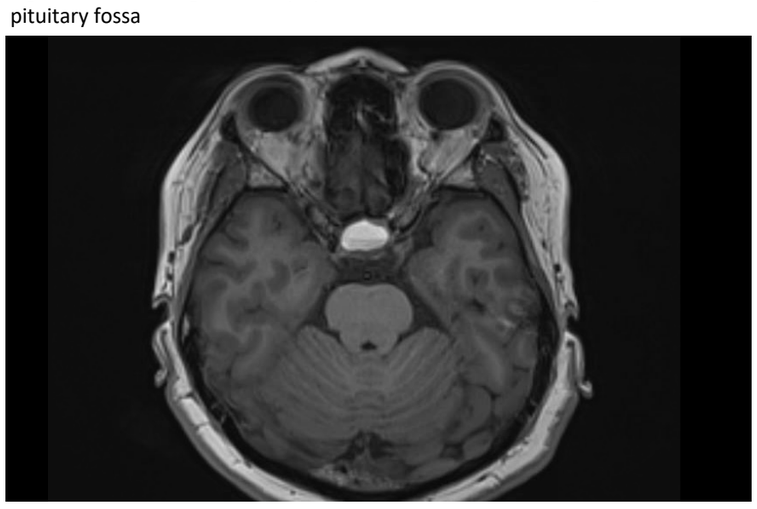

Figure 2: Axial T2 weighted STEALTH protocol image demonstrating fluid level

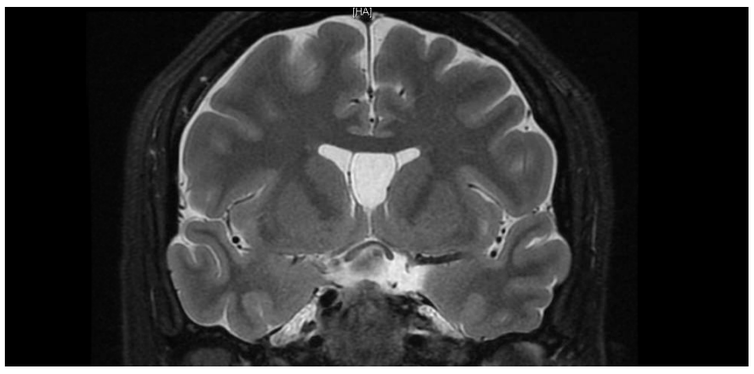

Figure 3 : Large cystic lesion noted within the pituitary sella measuring 2x1.8cm, causing compression on the optic chiasm which has been displaced superiorly and is draped along the upper margins of this cystic lesion.

Discussion

. These cases are described in the literature as sudden in onset of symptoms in patients with no known pre-existing pituitary pathology, though some are subacute, a range of symptoms are described with headache as the most frequent, decreased visual acuity, and visual field defects are also common[3,4], in affected individuals, all pituitary hormonal deficiencies can occur[5].

In one case report, a patient with a known pituitary microadenoma was counselled to trial cabergoline and delay her first pregnancy, she continued cabergoline until pregnancy however did not have an interval MRI prior to falling pregnant to assess stability of her adenoma. In this case she developed a pituitary apoplexy with visual compromise and she also underwent a stereotactic endoscopic transphenoidal excision within 24 hours with excellent recovery of her symptoms[4].

apoplexy her father experienced at a similar age.

In general, neurological and visual symptoms are said to largely resolve after early surgical decompression by up to 8 weeks postoperatively. In the post-partum setting, it is suggested that patients affected by visual field deficits in the case of prolactinomas, be treated with a dopamine agonist such as cabergoline, and therefore breastfeeding would be contraindicated.

There are no definitive guidelines on how to manage these cases in pregnancy, as a literature review extends only to case series and reports, however, as demonstrated by this case it is evident that a multidisciplinary approach is key, with involvement of relevant specialties at all stages of management paramount to achieving a positive outcome[3,5,6]. It is difficult to postulate prognosis, this patients preliminary outcomes were good. Monitoring of this patients' long term outcomes may inform advice for future pregnancies for this patient and others, and give an idea of how effective surgical decompression will be in this setting. A genetics counselling session was organised as well, with Familial Cancer Services, to assess the history of this patient and her family, given the episode of pituitary

Contributors

Sophie Doherty MBBS and Tien Huynh MBBS FRANZCOG were equal and sole contributors.

Conflict of Interest

The authors declare that they have no conflict of interest.

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Consent

Written informed consent was obtained from the patient for the publication of this case report

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