CASE REPORT: PITUITARY APOPLEXY

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Summary

Pituitary apoplexy is a rare surgical emergency. This condition involves the rapid progression, which can threaten patients' life and is caused by haemorrhage or infarction in the pituitary gland. In most cases, a pituitary apoplexy occurs on a pre-existing pituitary tumor. The patient presents with a clinical syndrome of headache, visual deficits, ophthalmoplegia, and altered mental status and hormonal dysfunction. We report a 28-year-old male patient with no previous history of pituitary gland disease. There was a sudden onset and rapid progression, and the patient underwent emergency endoscopic nasal surgery. After surgery, the patient's neurological function was improved and stable.

***** *Keywords: Pituitary apoplexy; Endoscopic nasal surgery.*

INTRODUCTION

In 1898, Pearce Bailey described the first case of pituitary tumor-associated hemorrhage. Pituitary apoplexy occurs in about 1% of pituitary tumors and in 65 - 95% of pre-existing tumors. Surgery is the basic and effective treatment for hemorrhagic pituitary apoplexy [1, 2].

CASE

A 28-year-old male patient with a healthy medical history was admitted to the hospital because of severe headache and intermittent fever. Physical examination revealed bilateral temporal visual field loss and non-other neurological abnormalities. Computed tomography (CT) of the brain showed a bleeding pituitary tumor. We decided to use hemostatic drugs, take magnetic resonance imaging of the brain, and schedule surgery the next day. However, after 6 hours of admission, the patient suddenly had a severe headache accompanied by a rapid decrease in binocular vision and loss of vision in both eyes. The CT scan of the brain showed an increase in bleeding in the tumor. Emergency surgery to remove the tumor was performed.

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After the operation, the patient was sent to ICU, post-operative condition was stable and at the time of discharging vision in both eyes was restored. A contrast CT scan of the brain detected a pituitary tumor with homogenous density in the sella turcica, with haemorrhage in the tumor. The diagnosis of haemorrhage pituitary tumor was suspected, and the second scan after 6 hours showed an increase in size. CT scan post-operation showed that the tumor was relatively removed and hemostasis was good during the surgery.

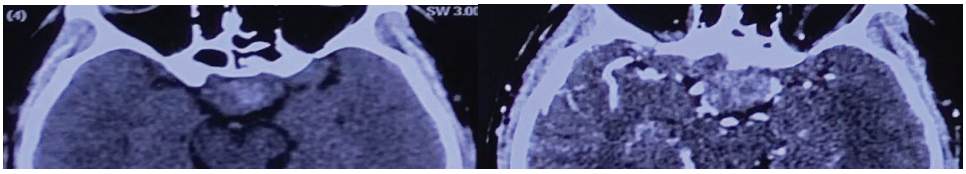

Figure 1: CT scan: Image of heterogeneous hyperintense mass in the pituitary fossa.

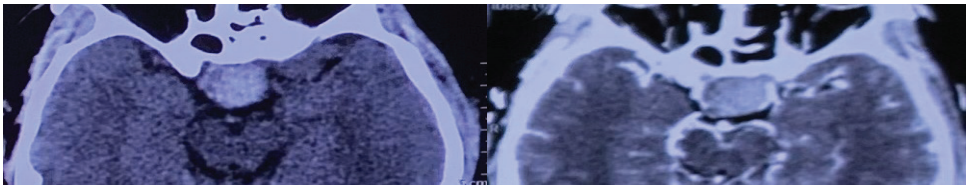

Figure 2: CT scan: More obvious hyperintense mass, indicative of bleeding progress.

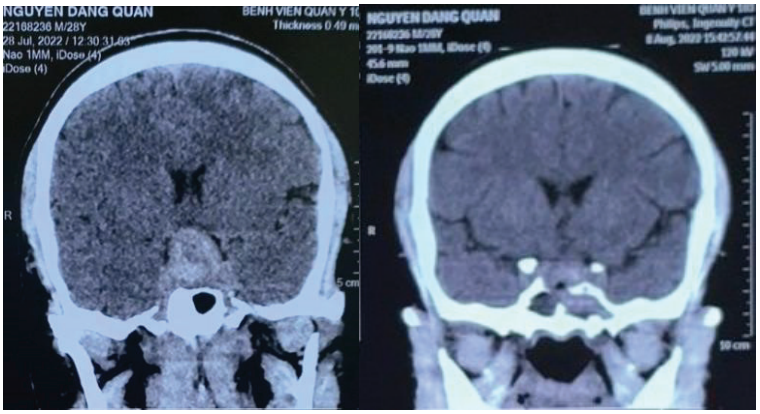

Figure 3: Coronal CT scan: Images before and after surgery show a smaller pituitary mass. The mass effect on the optic and cavernous sinuses is no longer evident.

DISCUSSION

Pituitary apoplexy includes symptoms of an infarction or haemorrhage pituitary tumor, which was first described by Brougham et al. [3]. Verrees et al. further enhanced the term to “pituitary tumor occurrence” because of the large number of pituitary apoplexy associated with pituitary adenomas and only a small number of cases occurring in normal pituitary glands. Our case is a haemorrhage pituitary tumor. Normally, bleeding occurs spontaneously, however, the authors reported several factors that are associated with stroke risk, including anticoagulation, radiation therapy, trauma, surgery, medical condition before or after giving birth, high estrogen levels, and diabetes [4, 5]. In our case, the patient had a sudden onset and no history of previous drug therapy or trauma.

The clinical symptoms are the result of an enlarged pituitary tumor and the appearance of secondary lesions caused by hemorrhage or infarction. The hemorrhagic tumor increases in size, resulting in compression to adjacent structures such as the cavernous sinus and nerve bundles (cranial nerve palsy and oculomotor palsy). Headaches are caused by blood flowing into the basal cistern, which irritates the meninges, or by stretching the dura [6]. Blood in the suprasellar cistern can cause chemical meningitis, as reported by Wen-Yi [7].

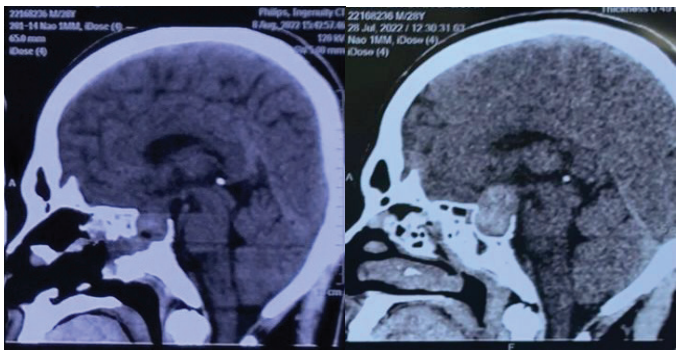

Figure 4: CT scan: Images of sagittal before and after surgery, can see the suprasellar cistern.

Eyesight and fields of vision are limited as a result of ischemia of the optic nerve and optic chiasma. In the case of pituitary bleeding, sudden or rapid progress loss of vision resulted from stealing the blood of the tumor from optic chiasma, and severe can cause complete vision loss. Lateral

hemorrhage and necrosis lead to functional deficits of cranial nerves 3, 4, 5 (branches 1 and 2), and 6. Our patient's vision decreased rapidly on admission, 10 hours after onset. The right vision was 2/10, and negative reaction with light in the left eye. After surgery, the eyesight on both eyes improved significantly. After 1 month the right eyesight was 10/10, and the left one was 8/10.

Consciousness disorders may result from endocrine abnormalities related to hypopituitarism or compression of the brain stem or hypothalamus. Severe hypopituitarism threatens the patient's life or an acute adrenal crisis may occur [1, 3, 6].

Most patients presenting with dizziness have hypopituitarism with reduced levels of all or some pituitary hormones. Three causes for this include elevated intracranial pressure that compresses the pituitary gland, a lack of hormones from the adenoma itself, and destruction of the pituitary gland. Diabetes insipidus is a rare feature because the posterior lobe is not usually part of the pituitary tumor [4]. Contrast CT scan shows a peripherally enhanced mass on pituitary glands with or without hemorrhage. Patchy or mixed hyperdense may be seen on non-contrast CT, which can sometimes cause subarachnoid hemorrhage [2, 5, 8]. GH, TSH, and Cortisol hormone tests of the patient were in normal limits. After surgery, there were no complications of diabetes insipidus

Pituitary apoplexy is a neurosurgery emergency requiring urgent decompression surgery to prevent permanent vision loss and death that can result from increasing local pressure on the hypothalamus and brain stem. [4, 9]. In our case, surgery was selected through the nasal under neuronavigation to help remove the tumor effectively and hemostasis safely. The pituitary gland is still able to secrete enough hormones when only 10% of the tissue is left. After surgery, the patient was under intensive care, monitored for complications of diabetes insipidus, rehydrated, and took electrolytes. The patient was discharged after 10 days.

CONCLUSION

Pituitary apoplexy is suspected in a patient presenting with sudden headache, eye sight impairment, visual field impairment, and ophthalmoplegia. Hemorrhagic pituitary is diagnosed early with a CT scan of the brain, and emergency surgery helps to protect pituitary function and restore vision for patients effectively.

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