

Cerebral Infarct Complication Following Pituitary Tumor Surgery: A Nursing Case Study

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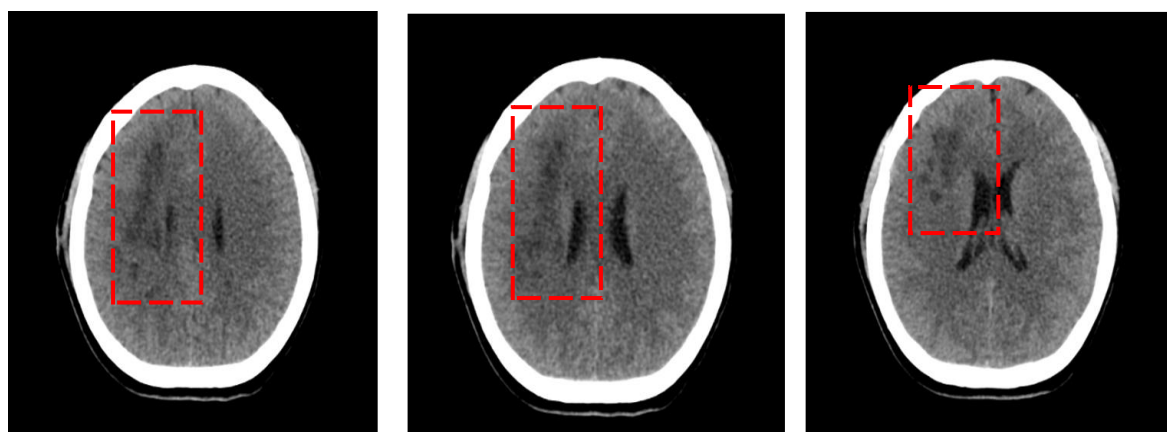


Introduction

Pituitary tumors are benign tumors that develop in the Sellar space. Diagnosis, management, and treatment of patients with pituitary tumors can be determined from the severity caused by changes in pituitary hormone secretion that affect the body's biological systems and the effect of compression or pressure on the surrounding area. tumor. Surgical intervention in patients with pituitary tumors carries various risks of complications. Postoperative Cerebral infarct is a dreaded and rare postoperative complication with an incidence ranging from 0.08% to 0.7%. Postoperative cerebral infarct has an unpredictable outcome with a mortality rate of up to 26% with paralysis of the limbs and loss of consciousness.

Case Presentation

A 28-year-old woman has complaints of decreased visual field in her right eye, severe headache, and irregular menstrual cycle. The results of the Magnetic Resonating Imaging (MRI) examination showed a mass in the suprasellar area. The patient then underwent surgery. On the sixth day after surgery, the patient experienced a decrease in consciousness with the level of Glasgow's Coma Scale (GCS) E3M5-V6. On the 7th day after surgery, the patient was admitted to the intensive care unit due to decreased consciousness, anxiety, and severe hyponatremia (Na = 110 mmol/L). with the patient's blood pressure = 97/60 mmHg, HR = 70 x/minute, RR = 18x/minute and temperature 36.6 degrees Celsius. The results of a repeat CT scan showed an acute infarction.



To maintain cerebral tissue perfusion, nurses collaborate with other healthcare staff in monitoring hemodynamics, administering anti-coagulant therapy and administering norepinephrine. The patient received intensive care for 7 days. Then the patient was clinically stable and transferred to the inpatient unit.

Discussion

Post pituitary surgery patients can be at risk of having a stroke until the 7th day after surgery. (Mashour et al., 2011). The causes of ischemic stroke after pituitary surgery can be caused by various causes, including (1) direct trauma to the blood vessels during surgery, (2) Pituitary apoplexy, (3) Secondary vasospasm occurs to subarachnoid haemorrhage and (4) hypothalamus trauma or injury (Gupta et al., 2013). In addition, cerebral infarction can occur due to cerebral oedema which is closely related to the incidence of hyponatremia. Patients with acute hyponatremia (less than 48 hours) may be at risk for cerebral oedema. (Giuliani & Peri, 2014).

In our patient, the hyponatremia that occurs triggers cerebral oedema which in turn will reduce blood flow to the brain so that the patient experiences decreased cerebral tissue perfusion or hypoperfusion. Hypoperfusion that occurs due to a combination of extracranial stenosis and/or hypotension is one of the causes of postoperative stroke (J. Singh, 2015). Ineffective cerebral tissue perfusion can cause brain tissue damage (J C Ayus et al., 2006). This can be seen from the CT image of our patient who had a cerebral infarction on the 10th day after pituitary surgery. Patients experience symptoms of weakness on the side of the body with lower muscle strength on the weak side of the body. The role of the nurse includes early detection, coordination with a team of other health professionals and comprehensive patient management. (Middleton et al., 2015)

Conclusions

Stroke after pituitary surgery can occur due to pituitary apoplexy, blood vessel damage during surgery to hypoperfusion due to complications of hyponatremia. Treatment and prevention of complications requires the cooperation of the health team to provide comprehensive care management.

References

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