

UNEXPECTED POSTOPERATIVE SEIZURE AFTER MASTOID SURGERY

- A Case Report -

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Postoperative seizures (expected after neurosurgery) are rare events. When they do occur, they are usually attributable to an identifiable drug reaction, a metabolic or neurological event¹. We report a case of postoperative seizure in postanesthesia care unit.

A 19-yr-old female, 48 kg, was admitted to a hospital for left middle-ear surgery. Her medical history, physical examination and laboratory evaluation were normal. Anesthesia was induced with fentanyl 1 µg/kg, thiopental 5 mg/kg and rocuronium 0.5 mg/kg to produce neuromuscular blockade. Anesthesia was initially maintained with oxygen, nitrous oxide and sevoflurane. Mastoid surgery was completed in 195 minutes after induction.

The patient was extubated, but approximately 10 minutes after arrival in recovery she started to generalized tonic clonic convulsion. Oxygen was administered by face mask and thiopental 100 mg was administered intravenously. Blood sugar, electrolytes and body temperature were normal. After ten minutes convulsion episode was repeated. Because of the continuing seizure activity in a patient at risk of pulmonary aspiration and security of air way, her trachea was intubated by using thiopental and succinylcholine and ventilation controlled artificially. The seizures were controlled with midazolam and phenytoin.

Computerized tomography (CT) showed left temporal cortical suspected hipodensity (Fig. 1) and the patient was transferred to ICU.

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Fig. 1

Computerized tomography (CT) showed left temporal cortical suspected hipodensity (Early postoperative period)



Figure 1

Neurological consultation was conducted and it was thought to be a new epileptogenic focus in left temporal lobe with iatrogenic brain injury. After 3 days, the patient was discharged without neurologic deficit in anticonvulsant therapy with phenytoin 300 mg orally. The magnetic resonance imaging (MRI) scan showed hyperintense signals area in left temporal cortex (Fig. 2). She was sent to the ward after normal physical examination findings.

There are numerous anesthetic and nonanesthetic causes of postoperative seizures; local anesthetics, inhalation anesthetics, opioids, drug reaction, hypoxia, hypocarbia, hypoglycemia, hyponatremia, hypocalcaemia, acidosis, pyrexia, psychogenic seizures (pseudoseizures). Postoperative seizures may result from global or focal cerebral ischemia due to hypoperfusion, particulate or air emboli, or metabolic

Fig. 2

Magnetic resonance imaging (MRI) scan showed hyperintense signals area in left temporal cortex (3 days after surgery)



Figure 2

causes².

Iatrogenic complications can and do occur in ear surgery. Damage occur if a cutting burr is used with excessive pressure directed onto an edge of the bone. The BURR can jump of the bone through the exposed dura into the middle fossa with damage to the arachnoids and surface of temporal lobe itself³. The operating microscope has dramatically reduced the risks of injury, but surgeons still maintained a heightened awareness of these complications, as many injuries are not visually detected at the time of surgery⁴.

We believe that, in our case the seizure may have occurred secondary to damage to the temporal cortex due to iatrogenic brain injury. To our knowledge seizures associated with iatrogenic brain injury is not well documented as a cause of postoperative seizures.

References

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