



Short Communication

Cerebellar haemorrhage complicating resection of a cervical intramedullary tumour

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Postoperative cerebellar haemorrhage is a rare occurrence after a procedure at a remote site. Commonly reported predisposing factors for nontraumatic cerebellar haemorrhages are also considered factors for postoperative haemorrhages; these include arterial hypertension, neoplasm, coagulopathy, and anticoagulant treatment.¹ However, a definite aetiology was seldom found. We report a case of a postoperative cerebellar haemorrhage in which drainage of excess cerebrospinal fluid (CSF) might be involved.

A 62 year-old-male had hypesthesia in his right upper limb for 1 year. Magnetic resonance images (MRI) of the cervical spine revealed an intramedullary tumour. The tumour was resected easily under general anaesthesia in the prone position. An expanded polytetrafluoroethylene (EPTFE) sheet (Gore-Tex[®]) was used for a dural patch. A suction drain was left in the epidural space with negative pressure. The pathological diagnosis of the tumour was ependymoma. Postoperatively, the patient awoke with stable vital signs and moved all four extremities adequately. Four hours after surgery, the drainage increased to 220 ml/h, and continued at 50~100 ml/h for the next 3 h. Gradually the drainage fluid became serous. Eighteen hours after surgery, the patient suddenly complained of headache and nausea with dysarthria, then his breathing ceased. A computed tomographic (CT) scan of the head revealed haemorrhage in the cerebellum and supracerebellar subarachnoid layer. An emergency suboccipital craniotomy was performed by neurosurgeons. The dura was slack and brain surface was not swollen. The source of the bleeding was not detected. A drainage tube was placed in the fourth ventricle. Little cerebrospinal fluid (CSF) drained and the CSF pressure was approximately 0 mmH₂O. The

diplopia, dizziness, and nausea persisted for 3 months, then gradually resolved. Cervical MRI obtained 3 months after the cervical procedure revealed a subcutaneous mass similar to a CSF cyst.

In this case, there was no evidence of coagulopathy, transient arterial hypertension, or angioma. We feel that CSF leakage from the cervical region might contribute to postoperative cerebellar haemorrhage. Approximately 500 ml of fluid were drained through the suction tube during the first 8 postoperative hours. The cervical dural patch was probably not watertight and CSF leakage was enhanced as a result of drainage with negative pressure. The postoperative subcutaneous cyst was evidence of CSF leakage. The intracranial dura was slack during the craniotomy; indicating the the intracranial CSF pressure was lowered. A reduction in the intracranial CSF pressure has been suggested to play an important role in inducing cerebellar haemorrhage.^{2,3} In addition, cerebellar displacement or tonsillar herniation might be induced by CSF leakage in the caudal region; resulting in compression of the brain stem. Cervical durotomy may have the same risk of cerebellar haemorrhage as supratentorial craniotomy if CSF leakage persists postoperatively.

Care should be taken with intraoperative CSF leakage and postoperative drainage of cervical durotomy. Negative pressure should not be applied when a large quantity of CSF leaks postoperatively.

References

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