

Perioperative Complications of Intraventricular Neuroendoscopy

Intraventriküler Nöroendoskopinin Peroperatif Komplikasyonları

KEYWORDS: Neuroendoscopy, Endoscopic third ventriculostomy, Complication

ANAHTAR SÖZCÜKLER: Nöroendoskopi, Endoskopik üçüncü ventrikülostomi, Komplikasyon

Dear Sir,

I read with interest the paper entitled, "Perioperative complications of intraventricular neuroendoscopy: a 7-year experience" by Ganjoo et al (3). They reviewed perioperative complications in patients who had undergone elective neuroendoscopic surgery. The intraoperative complications were as follows: tachycardia, bradycardia, hypertension and bleeding. Hypothermia, delayed awakening and electrolyte imbalance were encountered in the early postoperative period.

We published the complications of endoscopic third ventriculostomy (ETV) in 2008 (2). The complications were categorized as (1) intraoperative, (2) early postoperative (<1 month), and (3) late postoperative (>1 month). Intraoperative complications occurred in seven patients. Bleeding from the subependymal vein and ETV stoma occurred in three patients. Bradycardia developed in one patient when the Fogarty balloon was inflated beneath the stoma of ETV. The most common complication was cerebrospinal fluid (CSF) leak, seen in nine patients in the early postoperative period. A subduro-peritoneal shunt was implanted in two patients with subdural fluid collection. Restenosis of the ETV stoma developed in two patients. The complication rate significantly varied with the etiology of hydrocephalus ($P=0.013$). The patients with Chiari type I malformation and tumor had no or very low complication rates, respectively, whereas the complication rate was very high in patients with obstruction of fourth ventricular outlets. The complication risk was significantly higher in repeat endoscopic procedure (55.5%) than in the first procedure (10%; $P=0.0001$).

In another study conducted by our team, 24 patients underwent neuroendoscopic intervention (1). Sevoflurane was used for the induction and maintenance of anesthesia. Heart rate (HR), mean arterial pressure (MAP), peripheral oxygen saturation, end-tidal CO₂, and body

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temperature values were recorded according to the stages of the operation. Blood gas and blood chemistry analyses were performed before and after the endoscopic procedure and were repeated on the third postoperative day. There were no significant differences in intraoperative HR and MAP. Bradycardia occurred only in 1 of 24 patients at the time of balloon dilatation during ETV (3). Training, experience, and meticulous technique will decrease the complication rate. Patients undergoing ETV should be followed in a similar manner to patients with cerebrospinal fluid shunts.

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