

# **Endoscopic surgery for Intraventricular hemorrhage(IVH) caused by thalamic hemorrhage: comparisons of endoscopic surgery and external ventricular drainage(EVD) surgery**

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## **Abstract**

**Background:** .The aim of this study was to investigate the efficacy and the results of endoscopic surgery to evacuation IVH caused by thalamic hemorrhage and compared with EVD surgery.

**Material and methods:** From January 2006 to December 2008, seventy-two patients with thalamic hemorrhage were treated in our department. All patients were screened and the surgical indication was patients had IVH caused by thalamic hemorrhage and caused acute hydrocephalus. Patients had thalamic hemorrhage was not associated with IVH , patients who had bleeding tendency or secondary parenchymal hemorrhage were excluded . The inclusion patients were randomized divided into external ventricular drainage(EVD) group and endoscopic surgery group, respectively. The clinical evaluation data included Glasgow Coma Scale (GCS), age, Intracerebral hemorrhage (ICH) volume and severity of IVH. Outcome was measured using 30-days mortality rate, VP shunt dependent rate and Glasgow Outcome Scale (GOS) 3 months later.

**Results:** From January 2006 to December 2008, forty-eight patients with IVH caused by thalamic hemorrhage were enrolled and treated in our department. Patients were randomized divided into external ventricular drainage(EVD) group and

endoscopic surgery group, respectively. The clinical features of the 24 patients in the endoscopic surgery group and 24 patients in the EVD group showed no significant differences in age as well as GCS assessed on admission between the two groups. There was also no significant difference in ICH volume or Graeb score between the endoscopic group and EVD group. The 30 days mortality rate were 12.5% in the endoscopic surgery group and 12.5% in the EVD group. The mean GOS score were 3.08 in the endoscopic surgery group and 3.33 in the EVD group. There was no significant difference in mortality rate or outcome between the endoscopic group and EVD group. The VP shunt rate were 47.62% in the endoscopic surgery group and 90.48 in the EVD group. Endoscopic surgery group had a significant lower VP shunt rate( $p=0.002$ ,odds rate=9.8) compared with EVD group.

**Conclusion:** Both endoscopic surgery and EVD surgery can significantly decrease the mortality rate in IVH caused by thalamic hemorrhage patients. Endoscopic surgery had a significant lower shunt-dependent hydrocephalus as compared with EVD surgery and can decrease the need of permanent VP shunt in IVH caused by thalamic hemorrhage patients.