

**OP66****What is the role of MRI in ETVSS era?**

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**Objects:** Endoscopic Third Ventriculostomy (ETV) is considered as the treatment of choice for obstructive hydrocephalus. Numerous cases of rapid deterioration after ETV obstruction have been reported which implies a close follow-up. We conducted this study to identify early MRI criteria for ETV dysfunction.

**Methods:** All children treated by ETV from 01/01/2011 to 05/06/2013 were prospectively included. Follow-up included clinical and MRI evaluations (pre-op, 48h post-op, 3; 6 months and yearly). Clinical symptoms collected were: signs of acute raised intracranial hypertension versus mild signs of hydrocephalus recurrence. MRI items studied were ventricular volume, CSF flow voids and third ventricle floor (3rd VF) prolapse.

**Results:** 22 patients – 16 males, 6 females - were included. Age ranged from 2 days to 17 years old (mean 6,3y). The mean follow-up was 518 days (range: 193 to 889 days). 12/22 patients were relieved from hydrocephalus after 1 ETV while 10/22 experienced recurrence and were reoperated. Mean time from ETV to re-operation was 100 days (range: 25 – 315). At recurrence, 4/10 were successfully treated by redo-ETV, defining ETV dysfunction. 6/10 patients needed a shunt to treat their hydrocephalus, defining ETV failure. First MRI after ETV showed a mean ventricular volume decrease of 40,7cc (20,8%), 3rd ventricle shape normalised in 73% of cases, flow voids were present in all cases. At recurrence, ventricular volume increases, flow voids decrease and 3rd ventricle shape is modified. Mean ventricular volume increase was 90% and 18% in case of acute or mild symptoms respectively. At recurrence, mean 3rdVF prolapse in ETV dysfunction versus failure was +158% vs +33% respectively.

**Conclusion:** Close follow-up after ETV is needed. At hydrocephalus recurrence some patients can be successfully treated by redo-ETV. Prolapse of the third ventricle floor appears to us as the most informative criteria in the management.