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Meeting Abstract

Assessment of ETV in infancy and childhood below 2 years of age, what is the optimum age to start doing ETV?

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Text

Objective: This study assessed the success rate of ETV in patients below 2 years of age regardless the etiology of obstructive hydrocephalus.

Method: We collected 35 patients of obstructive hydrocephalus aged below 2 years at time of ETV from 12/1994 till 12/2012 treated by ETV either as a primary treatment or as an alternative to VP shunt. Age ranging from 2d – 19m. Patients were classified according to age and etiology into 3 age groups; < 6m age (25), 7-12m (4) and 13-24m (6), and 4 etiological groups; 17 cases of idiopathic aqueductal stenosis (IAS), other congenital anomalies (6), post-hemorrhagic (8) and tumor-related hydrocephalus (8) to analyze the effect on success rate of ETV. During the follow-up period, clinical data and neurodiagnostic imaging were studied. ETV was considered to be successful when shunting could be avoided.

Results: ETV was successful in 12 out of 35 patients (34%), 7 were below 6m age, 2 were 7-

12m age and 3 were 13-24m age. Etiologically, it was successful in 5 patients with IAS, 3 patients with other congenital anomalies, 2 patients with post-hemorrhagic and 2 patients with tumor-related hydrocephalus. Failure cases were 18 below 6m age, 2 were 7-12m age and 3 were 13-24m age. According to etiological classification, failure was detected in 12 cases of IAS, 6 cases with post-hemorrhagic hydrocephalus, 3 cases with other congenital anomalies and 2 with tumor-related hydrocephalus.

Conclusions: The overall success rate of ETV in patients below 2 years old was 34%, the age factor showed high influence on the outcome where patients below 6m of age showed the lowest success rate (28%) compared to 7-12 and 13-24 months of age which were similar (50%). The etiological classification showed higher success rate in tumor-related hydrocephalus and congenital anomalies causing obstructive hydrocephalus rather than IAS with success rate 50%, compared to post-hemorrhagic hydrocephalus which showed the lowest success rate 25%. The low success rate (29%) in cases of IAS could be explained as most of these cases (15/17 patients) were in the first age group with the highest failure rate. We recommend ETV as the first line treatment for patients above 6m of age due to its low complication rate and the high frequency and seriousness of postoperative complications of VP shunt. Although the success rate was low in those below 6m of age, it is preferred in cases of obstructive hydrocephalus without history of hemorrhage or infection to avoid the malfunction or shunt infection.