
(doi: 10.1007/s00381-020-05025-3)

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Deposited on: 15 January 2021
**Child’s Nervous System**

Reply to the letter to the editor from Lo WB, Afshari FT, Rodrigues D and Kulkarni AV regarding the article “Opening and closure of intraventricular neuroendoscopic procedures in infants under 1 year of age: institutional technique, case series and review of the literature”

---Manuscript Draft---

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<th>CNSY-D-20-01055</th>
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<td>Funding Information:</td>
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Reply to the letter to the editor from Lo WB, Afshari FT, Rodrigues D and Kulkarni AV regarding the article “Opening and closure of intraventricular neuroendoscopic procedures in infants under 1 year of age: institutional technique, case series and review of the literature”

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Keywords
hydrocephalus; endoscopic third ventriculostomy; CSF leak

Declarations

Funding – none to declare

Conflicts of interest/Competing interests – none to declare

Ethics approval – not required; all data and images anonymised

Consent to participate – not required; all data and images anonymised

Consent for publication – not required; all data and images anonymised

Availability of data and material – all patient data anonymised; all references supplied

Code availability – none to declare

Word count of main text: 405
Main text


We welcome the comments from Lo and colleagues on our institutional technique for opening and closure of intraventricular neuroendoscopic procedures in infants, and we read their technique with interest. It is clear that similar technical principles are utilized across our institutions to minimize cerebrospinal fluid (CSF) leak, including multilayered closure methods which both exploit and reinforce natural anatomical barriers to possible CSF leakage. We were also pleased to report the success of our technique in relation to clinical outcomes in 28 patients, with 0% CSF leak and complication rates in relation to this component of the procedure [2].

The fundamental step that differs between these techniques is the closure of the cortical-ventricular tract created for endoscopic access, with one technique using TISSEEL (Baxter*) fibrin sealant to seal the tract, and the other plugging the tract with a gelatin sponge ‘mushroom’ [3]. In our series, we have found that the partial deflation of the brain generated by the endoscopic procedure allows the brain to be manipulated to produce apposition of the two opposing cortical surfaces of the tract. This manipulation is facilitated by the use of a longer incision than is considered standard for such procedures. Considerable care is taken to ensure the TISSEEL (Baxter*) fibrin sealant only adheres to the more superficial component of the tract,
and we have not encountered any instances of TISSEEL entering the ventricular cavity in this series.

When TISSEEL is utilized as per our institutional technique, we believe that over time the tract becomes entirely sealed. Figure 1 demonstrates our use of TISSEEL to close a cortical-ventricular tract following an open transcortical approach to the lateral ventricle. This patient went on to require revisional surgery by the same approach 4 years and 8 months later, at which time the cortical divot was the only remaining evidence of the original tract (Fig. 1c).

It would be interesting to see the long-term effect on the cortical-ventricular tract of implanting a biodegradable gelatin sponge between the cortical surfaces and we would be interested to follow the results of the authors’ institutional technique, should they be published in due course.
References


Figure captions

Figure 1: Effect of TISSEEL fibrin sealant (Baxter®) on a cortical-ventricular tract following an open transcortical approach to the lateral ventricle (A, anterior; P, posterior). a Application of TISSEEL to appose corticotomy edges and seal tract; blue box indicates operative area of cortex shown at different time points in b and c. b Operative area of cortex prior to application of TISSEEL; yellow circle indicates cortical-ventricular tract. c Operative area of cortex during revisional surgery 4 years and 8 months later; yellow circle indicates cortical divot where previous tract to the ventricle has sealed.