Letter to the Editor: In Response to “Minimally Invasive Technique for Repairing CSF Leaks Due to Defects of Posterior Table of Frontal Sinus”

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We recently reviewed the article “Minimally Invasive Technique for Repairing CSF Leaks Due to Defects of Posterior Table of Frontal Sinus” by Bhavana et al.¹ The authors present a technique of repairing traumatic cerebrospinal fluid (CSF) leaks of the posterior table through a frontal trephine and then use an endoscope to visualize and repair the defect using fat, cartilage, fascia lata, and fibrin glue as an alternative to the conventional approach of obliteration of the frontal sinus. They demonstrated that at a mean follow-up of 1 year, no patients had a CSF leak recurrence, and there was minimal morbidity (neuralgic pain and hypertrophic scar).

One of the main reasons stated by the authors for presenting this study is that they noted the nasal endoscopic approach to posterior table CSF leaks is difficult to perform and results in high failure rates. However, they did not cite any evidence of these failure rates. At our institution we have extensively reviewed this topic and have presented several studies that show the nasal endoscopic approach is very successful and should be considered as a first-line treatment approach in many cases. This was initially presented in 2005 by the senior author (B.A.W.) where a nasal endoscopic approach was used in seven frontal sinus defects.² All of these patients had closure of the CSF leak, and only one patient required an osteoplastic flap without obliteration of the frontal sinus (above and below approach). More recently, we presented a prospective case series of endoscopic repair of posterior table fractures in a 2012 study and demonstrated that the nasal endoscopic approach was successful.³ In a group of 13 patients, mainly using a Draf IIb frontal sinusotomy approach, there were no CSF leak recurrences. One patient did require a trephination to assist with graft placement, but obliteration of the frontal sinus was not required.

Another 2012 prospective study by our group presented outcomes on the repair of skull base defects involving the frontal sinus.⁴ In this study, 37 patients with posterior table

defects from trauma, tumor, or spontaneous CSF leaks had their defects repaired using a nasal endoscopic approach. Again, the results were favorable; 91.9% had successful CSF leak closure on the first attempt with two patients requiring a revision. The overall closure rate was 97.3% using endoscopic methods. One patient required cranialization due to persistent pneumocephalus. Additionally, two patients required revision frontal sinusotomies due to formation of scar tissue.

A frontal trephine approach using an endoscope is an effective way of closure of posterior table frontal sinus CSF leaks. However, this results in a surgical incision on the patient's face that can lead to cosmetic issues. The nasal endoscopic approach has been shown to be highly effective without external incisions. Furthermore, the skull base defects presented in the current article are very inferior in the posterior table and could easily have been fixed using unilateral Draf IIb sinusotomies. We advocate attempting the nasal endoscopic approach first because it does not preclude more invasive procedures from being performed if CSF leak closure fails.

References

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