Transorbital approach for endoscopic repair of encephalocele

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This video demonstrates the transorbital approach for endoscopic repair of an anterior skull base encephalocele. The patient is a 77-year-old man with morbid obesity and a 2-year history of left-sided cerebrospinal fluid (CSF) rhinorrhea and radiographic evidence of an anterior skull base defect with an encephalocele. An endoscopic transorbital approach was chosen for repair because of its minimally invasive access to the anterolateral skull base. The patient had an excellent clinical outcome with resolution of the CSF rhinorrhea and preservation of full vision and extraocular muscle function.

The video can be found here: https://youtu.be/oDhZgnaiZ00.

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cutaneous tissue and orbicularis muscle down to the level of the tarsal plate.

The dissection then continued toward the level of the superior orbital rim and anterior cranial fossa. The endoscope was introduced, and the periornbita was protected using a malleable retractor. The superior orbital rim was removed with a high-speed drill (3:20). This step provided access to the anterior frontal sinus. With the aid of image guidance, the drilling was extended laterally until the laterally based posterior table encephalocele was encountered. The defect was approximately 1 cm in size. The bone and soft tissues surrounding the encephalocele were circumferentially dissected. The neck of the encephalocele was isolated (4:23), then the herniating arachnoid was reduced (4:37). Hemostasis was achieved. The free endonasal mucosal graft was harvested at this time. This was harvested from the nasal middle turbinate. Inlay dural substitute graft was then placed in the intracranial defect, followed by a rigid buttress in the epidural space to bolster the reconstruction (5:33). The mucosal graft was then overlaid as the final layer for reconstruction (5:56). The site was then packed with a small amount of nasal packing and dural substitute. There was no CSF leak observed at this point. The incision was then closed in a multilayer fashion (6:07).

The patient remained neurologically intact postoperatively with full function of extraocular muscles and preserved vision. He had a prolonged hospital stay secondary to postoperative respiratory issues. At 4 weeks of follow-up, he was progressing well and healing appropriately, with preserved vision and extraocular muscle function. His CSF rhinorrhea had resolved.1-5

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Disclosures
The author reports no conflict of interest concerning the materials or methods used in this study or the findings specified in this article.