Use of a Conchal Bowl Graft for a Large Encephalocele Repair

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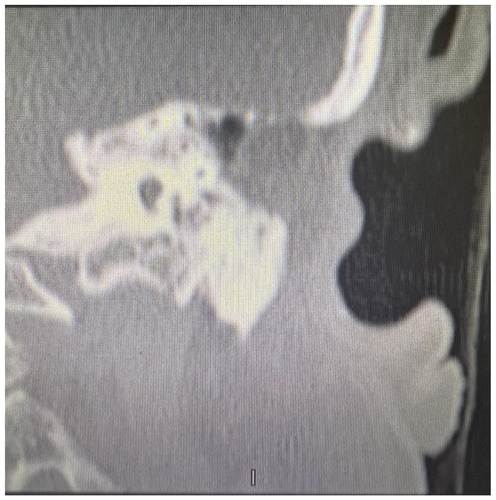
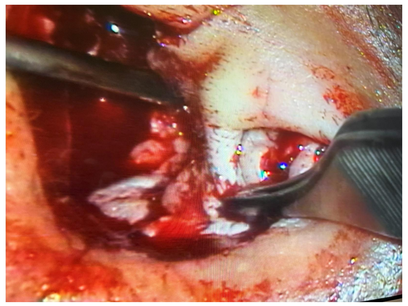
Introduction

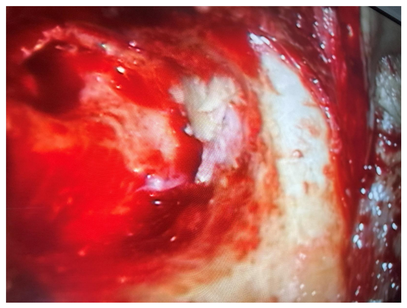
The conchal bowl is a common source of cartilaginous and skin grafts that has been utilized in the reconstruction of many areas of the head [1,2,3]. However, utilization of the entirety of the conchal bowl as a graft with a overlying local flap has never previously been described. This poster reviews the case of a patient who was discovered to have a large encephalocele while undergoing a left tympanomastoidectomy for cholesteatoma. This encephalocele was able to be repaired with a total conchal bowl graft with overlying local vascularized flap that allowed for appropriate reduction of the encephalocele and resolution of any CSF leak.



Case Report

This patient had a history of prior left canal wall up tympanomastoidectomy many years ago and was undergoing left canal wall down tympanomastoidectomy with ossicular chain reconstruction due to cholesteatoma. She had been previously evaluated with a CT temporal bone that had demonstrated one area of thin tegmen in the middle cranial fossa. Intraoperatively, it was revealed that in this area the patient had a large encephalocele in the middle cranial fossa. The decision was made intraoperatively to pursue repair of this defect with a conchal bowl graft with overlying local vascularized flap. The totality of the conchal bowl was resected and set aside for grafting. Next, the deep tissue was then resected and the skin was formed as a superior based keratinizing flap. Pieces of chondral cartilage were then cut and used to support the encephalocele back into the intracranial cavity in a lock and key type position, An approximately 6X12mm cartilage graft was then used in this manner. The encephalocele was reduced into the intracranial cavity. A very large thick temporalis fascia graft was then placed over the top of the cartilage and left in place. Use of this graft and flap allowed for reduction of the encephalocele and resolution of any CSF leak. The rest of the procedure was able to be performed without complication.





Results

The patient experienced a normal postoperative course without complications. Audiogram obtained 3 months postoperatively demonstrated an improvement in air and bone PTA on the left side (48 to 45dBHL air and 15 to 5dBHL bone), good WRS at 84% on the left, and a left sided SRT of 50dB. CT temporal bone obtained four months postoperatively revealed postoperative changes, intact placement of ossicular prosthesis, and no clear evidence of recurrent cholesteatoma or encephalocele. Two years postoperatively, the patient has not had any recurrence of encephalocele or CSF leak and continues to feel well. They have not required revision mastoid surgery either at this time.

Conclusions

Use of a conchal bowl graft with overlying local vascularized flap for the repair of a large middle cranial fossa encephalocele is safe and effective. When encountered during mastoidectomy, this technique allows for completion of the planned surgery with good hearing and symptomatic outcomes.

References

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