Managing Cochlear Implant Extrusion with an Occipital Flap

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ABSTRACT

Managing cochlear implantation complications is critical. Infections, contamination, and extrusion can negatively impact patient outcomes and require timely intervention. To the best of our knowledge, there is limited experience following occurrences of flap breakdown following cochlear implant surgery. Here, we present a case of a 4 year old girl who developed delayed skin flap breakdown and exposure of hardware following cochlear implantation. After wound edges were excised, the device was covered and the flap defect closed utilizing vascularized tissue in the form of a local occipital flap. We believe this is the first known report of using a local occipital flap to manage hardware exposure following pediatric cochlear implantation.

INTRODUCTION

We report a case of flap necrosis months after cochlear implantation that resulted in a hardware exposure. Initially, the device was secured with a local fasciocutaneous flap based on the occipital area. The wound edges were excised, the device was covered, and the defect was closed primarily. Postoperatively, wound breakdown occurred and exposure of the hardware resulted. A second operation was undertaken to excise the wound edges, cover the device with vascularized tissue, and allow the wound to granulate and close secondarily. This case demonstrates the value of the occipital flap in the management of delayed hardware exposure following cochlear implantation.

CASE REPORT

AG was a 3 year-old girl with progressive bilateral profound bilateral sensorineural hearing loss. She underwent right-sided cochlear implantation at age 2 years and 6 months with an Advanced Bionics device. This initial procedure was performed months following surgery, when she presented with swelling in the area of the hardware. This condition proved to be infection and soft tissue necrosis of the hardware. Following antibiotic therapy and resolution of infection, the hardware was removed and replaced with a new cochlear implant in the contralateral side. Postoperatively, the patient tolerated the procedure well and demonstrated good hearing outcomes. At age 4 years and 3 months, the patient underwent a second operation to remove the hardware followed by implantation of the contralateral side in an attempt to correct the patient’s bilateral profound sensorineural hearing loss.

DISCUSSION

Infections and hardware extrusions are common complications following cochlear implantation. Although these complications are typically managed with antibiotics and local wound care, there are instances where hardware exposure may require more aggressive intervention. In this case, the patient developed delayed skin flap necrosis following cochlear implantation. The flap was excised and the hardware was covered with a local occipital fasciocutaneous flap. We believe this is the first known report of using a local occipital flap to manage hardware exposure following pediatric cochlear implantation.

CONCLUSION

The occipital flap is a reliable, well-vascularized, local fasciocutaneous flap that can be used to manage hardware exposure following cochlear implantation. In this case, the occipital flap allowed for the coverage of hardware extrusion, providing a stable and secure platform for the hardware to remain in place.

REFERENCES