

Cochlear Implantation in Infants: Special Considerations

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ABSTRACT

It is important for surgeons who perform cochlear implants to not only be aware of surgical challenges in infants, but also anesthetic challenges. Standard anesthetic technique for cochlear implantation in infants involves inhalation induction, volatile maintenance, and endotracheal intubation. However, cochlear implantation is an elective procedure, and the decision to perform the procedure in the young infant must be made carefully. The main complications include bleeding, facial nerve injury, and infection. While the incidence of these complications is low, it is important to recognize that they can occur. In addition, the anesthetic technique must be tailored to the individual infant, taking into account their size and age.

RESULTS

We report on 20 patients who underwent cochlear implantation in the first year of life. The mean age at activation was 12.2 months (range, 0.5-24 months). The mean operative time was 1.6 hours (range, 0.5-3.5 hours). There were no major surgical complications (significant hematoma, wound infection, facial nerve injury). One patient had a small dehiscence of the incision due to trauma, which healed without infection. One patient had a significant hematoma that required reoperation; there was no significant postoperative nausea and vomiting. Some anesthesiologists may recommend avoiding deep sedation and general anesthesia in infants, as this may be associated with an increased risk of bleeding. There were no anesthetic complications.

CONCLUSIONS

Cochlear implantation in infants 12 months of age and younger provides some unique challenges to the surgeon and anesthesia team. With appropriate adaptation by experienced surgeons and pediatric anesthesiologists, cochlear implantation in this age group is safe and effective with a similar efficacy and complication profile as seen with older pediatric patients.