Day-case otology: special attention to pediatric cochlear implantation procedure

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Objective
To evaluate the feasibility of cochlear implantation (CI) as day-surgery in children and to identify variables influencing admission, readmission and unplanned postoperative consultation.

Materials & Methods

CI procedures in children <16 years →
between January 2017 to July 2022
106 cases

EXCLUSION
- Day-surgery contralateral CI surgery: 30
- Planned stay in a pediatric ENT hospital: 6
  • Simultaneous bilateral CI: 3
  • Comorbidities incompatible with day-surgery: 2
  • Inappropriate geographical distance: 1
- Explantations-reimplantations: 4

ANALYSIS
N = 66
Day-surgery cochlear implants in primary hospitalization

No variables influencing admission

- Anesthetic agents
  • Propofol (p=0.706)
  • Sevoflurane (p=1)
  • Remifentanil (p=1)
- Analgesic agents
  • Paracetamol (p=0.996)
  • Ibuprofen (p=0.998)
  • Ketamine (p=0.602)
  • Morphine (p=1)
- Antiemetic with ondansetron (p=0.998)
- Time spent in operating room (p=0.559)
- Age
  • < 1 year (p=0.334)
  • < 3 years (p=0.162)

Results

Day-surgery success

Success 86%
Failure 14%

PONV 3,5%
Late awakening 6%
Non-controlled pain 4,5%

- Rehospitalized : 0 child
- Early unplanned consultations : 3%
  - 1 child : vertex edema
  - 1 child : uncomplicated otorrhea

- All immediate or remote complications were benign.
- The failure rate was slightly higher than in the literature, but none of the studies considered late awakening as a cause of day-surgery failure.
- All infants <12 months had a successful day-surgery (n=10).
- PONV prophylaxis remains essential.

Discussion

Conclusion
This study suggests that CI procedure is suitable for day-surgery at any age, even in infants. The risk of failure is low and not influenced by anesthetic agents, duration of anesthesia or age.