

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

E. Lescanne^{1,2,3}, F. Micaletti¹, M. Schleich¹, L. Boullaud¹, S. Pondaven-Letourmy^{2,3}

¹ENT unit, CHU de Tours, 2 boulevard Tonnelé, 37044 Tours, France, ² Faculty of medicine, University of Tours, 10 boulevard Tonnelé, 37044 Tours, France,

³ Pediatric ENT unit, CHU de Tours, 49, boulevard Béranger, 37000 Tours, France. 🇫🇷

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.

Materiels & Methods



2-years-old child with bilateral cochlear implants

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



Implant activation prior to the ENT pediatric day-surgery unit discharge

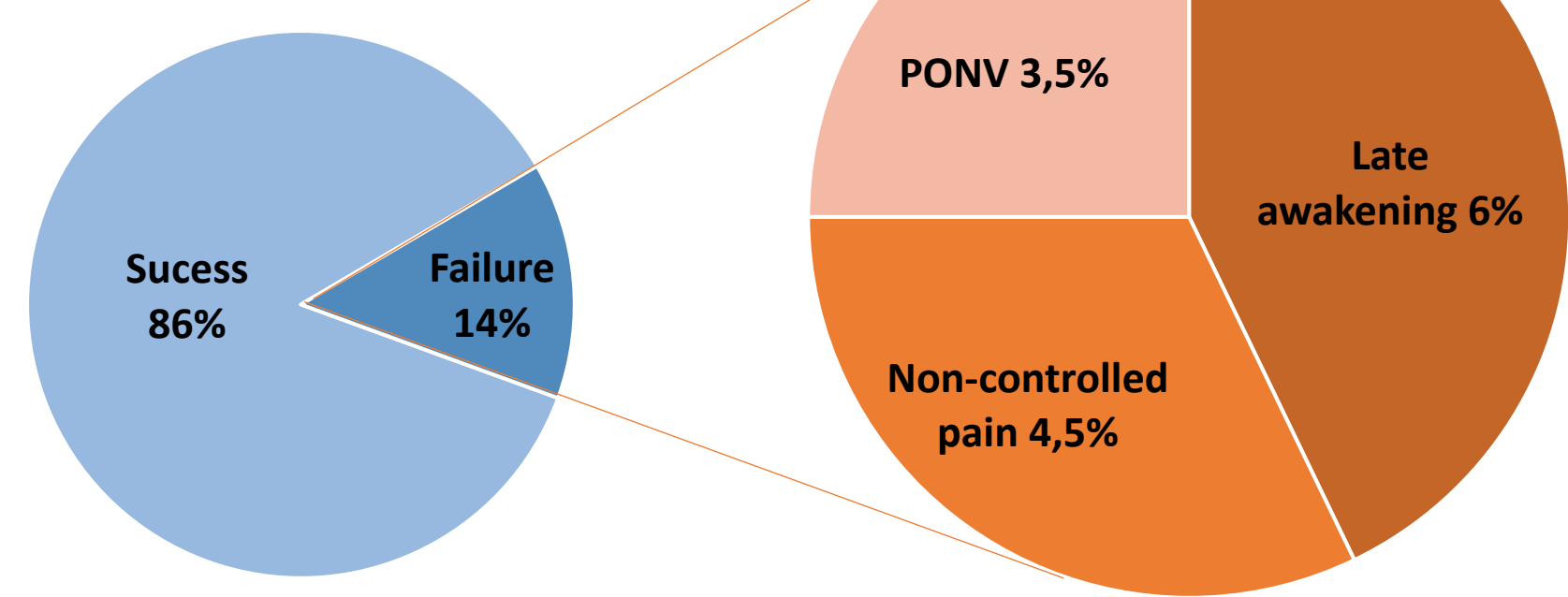
ANALYSIS

N = 66

Day-surgery cochlear implants in primary hospitalization

Results

Day-surgery success



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

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)

Discussion

- 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.

Author, date	Number	Age < 12 months	Average anesthesia time	Day-surgery success, n (%)	Conversion to hospitalization, n (%)	Reconsultation, n (%)	Readmission, n (%)
Powell et al. (2009)	7	0	160	7 (100)	0 (0)	-	-
Liu et al. (2000)	53	0	-	51 (96)	2 (4)	0 (0)	0 (0)
Stephens et al. (2010)	21	0	-	20 (95)	1 (5)	0 (0)	0 (0)
Sivam et al. (2017)	579	-	-	573 (99)	6 (1)	-	-
Roxbury and al. (2015)	464	-	-	-	-	12 (2,6)	3 (0,6)
Patel et al. (2018)	2436	-	197	-	-	-	66 (2,7)
Hugel et al. (2022)	190	-	140	181 (95,3)	9 (4,7)	9 (4,7)	5 (2,6)
Boullaud et al. (2022)	47	6	ND	40 (85)	7 (15)	1 (0,2)	0 (0)
Present series	67	10	143	57 (86)	9 (14)	2 (3)	0 (0)

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.