BAHA SURGERY COMPLICATIONS

27th Alexandria International Combined ORL Congress

Alexandria, Egypt April 9, 2009

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BAHA®
Direct Bone Conduction

- Works independently of ear canal and middle ear
- Direct transmission gives clear sound
- Preoperative testing possible
- High wearing comfort
- Safe and simple surgery

BAHA®
1977 (Tjellstrom et al., 1981)
Göteborg, Suecia
BAHA® Clinical Indications

- Conductive hearing loss
- Mixed hearing loss
  - In patients who are unable to use standard air-conduction aid and cannot or decline to be helped by reconstructive ear surgery

Unilateral sensorineural hearing loss as a CROS Hearing Aid
BAHA® Clinical Indications

- Acoustic neuroma
- Unilateral sudden hearing loss
- Inoperable atresias EAC
- Chronic external otitis
- Tumors EAC and middle ear

BAHA® Clinical Indications

- Recurrent stenosis EAC
- Inoperable conductive HL
- Conductive HL in only hearing ear
- Large mastoidectomy cavities->feedback
Surgical Procedure
BAHA in Children

- Minimum 2.5 of bone
- 3-mm fixture
- Second fixture (sleeper)
- 3 to 6 months waiting period between stages (range up to 15 mo in <5y)
- Fitting 6 to 8 weeks after stage 2
DELAYED HEALING

- Hair loss
- Bone exposure
- Without infeccion
BAHA: COMPLICATIONS

BAHA: SURGICAL COMPLICATIONS

- **Intraoperative**
  - Sigmoid Sinus Perforation
  - Insufficient thickness of temporal squama
  - CSF leak

- **Postoperative**
  - Soft tissue infections
  - Flap Necrosis
  - Oseointegration failure
  - Meningitis, IC abcess
Complications in 150 patients implanted with a BAHA

<table>
<thead>
<tr>
<th>Complications</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin overgrowing abutment</td>
<td>11 (7.4)</td>
</tr>
<tr>
<td>Implant extrusion</td>
<td>5 (3.4)</td>
</tr>
<tr>
<td>Wound infection</td>
<td>2 (1.3)</td>
</tr>
<tr>
<td>Flap necrosis</td>
<td>1 (0.7)</td>
</tr>
</tbody>
</table>

House J, Kutz W, Otol Neurotol 2007

Complications
Skin overgrowing the abutment

- 11 patients (7.4%)
- 3 to 24 months after surgery (mean = 12 months)
- Possible inciting factors
  - Low placement
  - Not wearing speech processor
  - Allergy to titanium?

House J, Kutz W, Otol Neurotol 2007
Implant Complications (6-15%)

- Regular hygiene
- Delayed healing
- Skin infection/over-growth
- Tamovate® Ung. 0.05 % TID
- Post-op use of healing cap
- Osteointegration failure
- Traumatic fixture loss

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