Bearbeitet von
Mario Sanna

Neuausgabe 2007. Buch. 408 S.
ISBN 978 3 13 101092 6
Format (B x L): 21 x 29,7 cm

Weitere Fachgebiete > Medizin > Chirurgie > Orthopädie- und Unfallchirurgie
Zu Inhaltsverzeichnis

schnell und portofrei erhältlich bei

Die Online-Fachbuchhandlung beck-shop.de ist spezialisiert auf Fachbücher, insbesondere Recht, Steuern und Wirtschaft. Im Sortiment finden Sie alle Medien (Bücher, Zeitschriften, CDs, eBooks, etc.) aller Verlage. Ergänzt wird das Programm durch Services wie Neuerscheinungsdienst oder Zusammenstellungen von Büchern zu Sonderpreisen. Der Shop führt mehr als 8 Millionen Produkte.
The Enlarged Translabyrinthine Approach

Rationale

The translabyrinthine approach gives direct lateral access to the internal auditory canal and cerebellopontine angle without any cerebellar retraction. The enlarged form of the approach overcomes the anatomical limits represented by the middle fossa, the sigmoid sinus, and the jugular bulb. Extensive bone removal around these structures allows them to be retracted during surgery and is considered the hallmark of this approach (Fig. 5.1).

Indications

Cerebellopontine angle lesions when hearing preservation is not aimed at as follows:

- Acoustic neuroma:
  - With bad preoperative hearing whatever the size of the tumor. It should be noted that giant tumors can be safely removed through this approach.
  - Acoustic neuroma more than 1.5 cm in the extrameatal diameter irrespective of the preoperative hearing.

- Meningiomas posterior to or centered to the internal auditory canal with unserviceable hearing. Cases that lie anterior to the canal necessitate a transapical extension, whereas large petroclival tumors need a modified transcoclear approach.

- Other cerebellopontine angle tumors with unserviceable hearing such as epidermoids or dermoids.

Contraindications

- The only hearing ear.
- Ipsilateral chronic otitis media.

Surgical Anatomy

1. The digastric ridge is an important landmark for the mastoid segment of the facial nerve (Fig. 5.2).
2. The ampulla of the posterior semicircular canal is immediately medial to the facial nerve. The nerve lies medial and anterior to the lateral semicircular canal (Fig. 5.3).
3. The vestibule lies immediately medial to the facial nerve (Fig. 5.4).

Surgical Technique

1. A C-shaped postauricular skin incision is made. The incision is placed 4–6 cm behind the retroauricular sulcus, 2–3 cm superior to the ear attachment, and just inferior to the mastoid tip (Fig. 5.5).
2. The musculoperiosteal layer is incised in a T-shaped fashion using cutting diathermy. The incision should go down to the bone (Fig. 5.6).
3. The musculoperiosteal flaps are elevated with a periosteal elevator. At the level of the mastoid tip, monopolar cutting diathermy applied against the bone is used to raise the flap. Bleeding from the mastoid emissary vein usually occurs at this step and is controlled using bone wax. The flaps are sutured to the skin using 2/0 silk sutures. The anterior flap is sutured to the corresponding skin flaps and the two flaps are retracted anteriorly using skin hooks (Fig. 5.7).
4. An extended mastoidectomy is performed. The mastoid cells are exenterated. The middle fossa dura and the sigmoid sinus are identified. The digastric ridge is identified. The facial nerve is skeletonized and not uncovered. Bone 2–3 cm posterior to the sinus is drilled. Bone over the middle fossa is beveled. The sinodural angle is widely opened (Fig. 5.8).
Fig. 5.2  The digastric ridge (DR) points to the mastoid segment of the facial nerve (FN).

Fig. 5.3  Relation of the facial nerve (FN) to the ampullae of the lateral (lsc) and posterior (psc) semicircular canals.

Fig. 5.4  The facial nerve (FN) is immediately medial to the vestibule (Ve).

Fig. 5.5a, b  Right postauricular skin incision.
5. The last shell of bone over the sigmoid sinus and the dura posterior to the sinus is removed using a large diamond burr. The sigmoid sinus is gently depressed using a suction irrigator, and the posterior fossa dura in front of the sinus is separated from the overlying bone using a septal dissector. After thinning of this bone with the burr, it is removed using a bone rongeur. The middle fossa dura is uncovered in the same manner (Fig. 5.9).

6. The labyrinthectomy starts with opening the posterior semicircular canal. A thin shell of bone is left at the sinodural angle and around the labyrinth to afford protection of the superior petrosal sinus and the middle and posterior fossa dura while performing the labyrinthectomy (Fig. 5.10).

7. The labyrinthectomy continues by drilling of the three semicircular canals, leaving the most anterior part of the
lateral semicircular canal to afford protection for the facial nerve (Fig. 5.11).

8. The ampullae of the lateral and superior semicircular canals are drilled, leaving the most anterior parts of both to protect the facial nerve. The vestibule is next opened widely (Fig. 5.12).

9. After completion of the labyrinthectomy, the bone overlying the posterior and middle fossa dura is successively removed. Using a large septal dissector, the dura is separated from the overlying bone. The bone is next removed with a bone rongeur (Fig. 5.13). Following the posterior fossa dura in this manner allows the porus of the internal auditory canal to be identified.

10. Identification of the inferior and superior borders of the internal auditory canal begins. During this step, drilling should be carried out parallel to the direction of the canal and from a medial to lateral direction (Fig. 5.14). The ampulla of the superior semicircular canal serves as a landmark for the superior border of the internal auditory canal. The inferior border is identified by drilling the retrofacial air cells between the jugular bulb inferiorly and the presumed inferior border of the canal superiorly (Fig. 5.15). With progressive bone removal superiorly and inferiorly as well as removal of bone medially following the posterior fossa dura, the internal auditory canal begins to be identified and the porus is reached (Fig. 5.16).

11. By continuous drilling, two deep troughs superior and inferior to the internal auditory canal are created. The dura of the internal auditory canal is uncovered for 270° of its circumference. The porus is completely uncovered. Further drilling at the level of the fundus exposes the transverse crest separating the inferior vestibular nerve inferiorly from the superior vestibular nerve superiorly (Fig. 5.17).