Curved retromastoid incision

A curved retromastoid incision provides an adequate exposure of the targeted surgical area, and its base is along the suboccipital muscles as well as the neurovascular bundle and allows reflection of a single myocutaneous flap inferiorly.

The myocutaneous flap does not interfere with the working zone of the surgeon. By reflecting the flap inferiorly and not bundling it laterally (as in the case of the linear incision), the surgeon allows a closer working distance to the target in the cerebellopontine angle.

This incision was initially described by Dandy [1] and has been slightly modified based on the description below. Dr. John Tew (Mayfield Clinic).

It is necessary to identify the mastoid eminence, mastoid groove, inion and the root of zygoma. A line connecting the inion to the root of the zygoma should be drawn to approximate the transverse sinus. A vertical line is also drawn over the mastoid groove to intersect the first line. We have previously demonstrated that this point of intersection approximates the junction of transverse and sigmoid dural sinuses [2].

A vertical linear paramedian incision provides adequate exposure for lesions < 2.5cm diameter and involves less trauma to overlying muscles, and may be easier to get watertight closure than with midline incision.

For lesions in the cerebellar hemisphere: a linear vertical incision approximately midway between the midline and the mastoid notch may be used.

Access to CPA (for microvascular decompressions and small CPA tumors): a slightly curved retromastoid incision placed 5mmmedial to the mastoid notch (a palpable landmark) is used:

1. “5–6-4” incision (incision placed 5mm medial to mastoid notch, extending from 6cm above notch to 4cm below). High enough to expose transverse sinus:

a) for approach to fifth nerve: microvascular decompression for trigeminal neuralgia

2. “5–5-5” incision (5mm medial, extending 5cm up to 5cm down), used for approach to seventh/ eighth nerve complex:

a) microvascular decompression for hemifacial spasm

b) small vestibular schwannoma

3. “5–4-6” incision (5mm medial, extending 4cm up to 6cm down): used for approach to lower cranial nerves:

a) glossopharyngeal neuralgia

1)
Dandy WE. 1st ed. Hagerstown, MD: W. F. Prior Company, Inc.; 1966. The Brain.
2)

Tubbs RS, Loukas M, Shoja MM, Bellew MP, Cohen-Gadol AA. Surface landmarks for the junction between the transverse and sigmoid sinuses: Application of the “strategic” burr-hole for suboccipital craniotomy. Neurosurgery. 2009;65:37–41.