

Fig. 1

The structures passing lateral to the great vessels at the base of the skull are: the facial nerve, the styloid process and its attached ligaments and muscles, as well as the posterior belly of the digastric muscle and sternomastoid muscle (Fig. 2). For extensive jugular foramen tumors extending down to the neck, as in class C glomus jugulare tumors, adequate control of this region from the lateral to the medial aspect requires these structures either to be sacrificed or transposed.

#### Indications

*Lesions of the jugular foramen:* Type C and D glomus jugulare tumors (this is the main indication for this approach). Neuromas and meningiomas of the jugular foramen. However, we manage these cases using the petro-occipital trans-sigmoid (POTS) approach, with preservation of middle ear function and without anterior transposition of the facial nerve.

*Lesions of the infralabyrinthine and apical portions of the temporal bone:* Infralabyrinthine and some cases of apical petrous bone cholesteatomas. Chordomas of the lower clivus. Extensive facial nerve neuromas.

#### Surgical steps

A postauricular skin incision is performed (Fig. 3). A small, anteriorly-based musculoperiosteal flap is elevated to help in closure afterwards. The skin of the external auditory canal is transected, elevated and blind sac closed.

The facial nerve is identified at its exit from the temporal bone. The main trunk is the perpendicular bisection of a line joining the cartilaginous pointer to the mastoid tip. The main trunk is traced in the parotid until the proximal parts of the temporal and zygomatic branches are identified.

The posterior belly of digastric muscle and the ster-

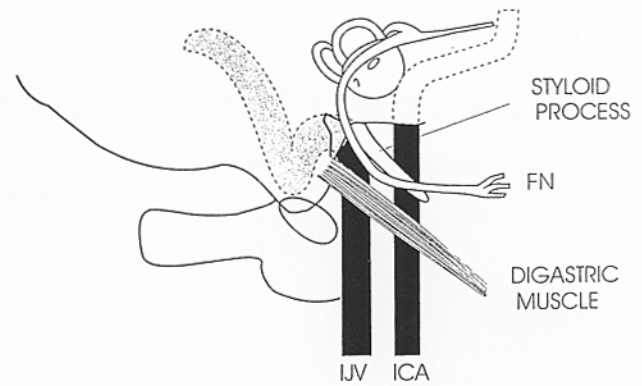


Fig. 2

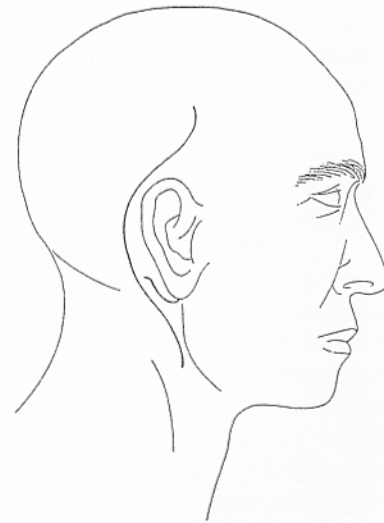


Fig. 3

nocleidomastoid muscle are divided close to their origin. The internal jugular vein and the external and internal carotid arteries are identified in the neck. The vessels are marked with umbilical tape.

The skin of the external auditory canal, the tympanic membrane, the malleus and the incus are removed. A canal wall-down mastoidectomy is performed, with the removal of the bone anterior and posterior to the sigmoid sinus.

The facial nerve is skeletonized from the stylomastoid foramen to the geniculate ganglion. The last shell of bone is removed using a double-curved raspatory.

The suprastructure of the stapes is preferably removed after cutting its crura with microscissors. The inferior tympanic bone is widely removed and the mastoid tip is amputated using a rongeur. A new fallopian canal is drilled in the root of the zygoma superior to the Eustachian tube.

The facial nerve is freed at the level of the stylomastoid foramen using strong scissors. The soft tissue at this level are not separated from the nerve. The mastoid segment is next elevated using a Beaver knife to