Technical note

Extended retroauricular access to the medial temporomandibular joint space

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Introduction

There are many ways to operate on the temporomandibular joint (TMJ), including open approaches, which can be classified as preauricular, endaural, and retroauricular. The latter results in a pleasing appearance and extension of the temporals improves access. We describe an extended retroauricular approach, which offers excellent access to the medial joint space and allows simultaneous harvesting of conchal cartilage and temporalis fascia. We describe this technique in a patient with bilateral fibro-osseous ankylosis of the TMJ after trauma.

Technique

A 42-year-old man presented with bilateral fractures of the condylar neck (Spiessl and Schroll, type V) and a displaced right parasympyseal fracture. He had been treated at another hospital with open reduction, internal fixation of the parasympyseal fracture, and intermaxillary elastics for the condyles. He developed progressive trismus and postoperative computed tomography (CT) confirmed bilateral temporomandibular fibro-osseous ankylosis, which required another operation.

After standard preparation, we marked out the modified retroauricular incision (Fig. 1). The auricular component began at the superior aspect of the pinna and continued inferiorly to the earlobe. This incision line was 2 mm anterior to the auriculocephalic fold and we marked out a further 8 cm curvilinear temporal extension line from the superior pinna towards the superior temporal line.

The incision extended down superiorly to the temporalis fascia and inferiorly over the auricular cartilage and down to the mastoid peristeum. We bevelled the hairline incision to preserve the hair follicles then dissected anteriorly and transected the external auditory meatus. When we reached the zygomatic arch, we made an inverted “L” incision through the arch of the periosteum and the joint capsule posteriorly to expose the joint.

High condylectomies provided access to remove the medially displaced condylar heads and associated ankylosis (Fig. 2). During this phase, a short-acting muscle relaxant allowed adequate condylar distraction with Tessier forces to access the medial joint space. When we removed the fibro-osseous ankylosis, we also harvested 3 × 2 cm of conchal cartilage. The shape of this mimics the contour of the glenoid fossa and should normally be secured with 3/0 polydioxanone (PDS, Ethicon), but alternative autologous and alloplastic reconstructive materials could be used instead. (Figs. 3 and 4)

A disadvantage of this technique is the risk of cicatrial scarring and canalicular stenosis. This can be prevented by meticulous closure of the skin over the repaired joint with interrupted 4/0 polygllactin (Vicryl Rapid, Ethicon) sutures. We do not routinely suture cartilage or use deep-anchoring sutures, and so far stenosis has not been a problem. A wick soaked in chlorotetracycline (Aureomycin, BePharbel, Courcelles, Belgium) 1% was inserted into the auditory canal for three days. The patient was discharged with advice to eat a soft diet for 28 days and do jaw exercises with finger

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Fig. 1. The extended retroauricular incision marked out. In addition the Pitanguy line, running from 0.5 mm below the tragus to 1.5 cm above the lateral brow, and the possible path of the zygomatic branch are marked out.

Fig. 2. Exposure of the left temporomandibular joint and ankylosis.

Fig. 3. A Tessier distractor together with muscle relaxation allows effective access to the medial aspect of the temporomandibular joint and removal of ankylosis (forceps pointing).

Fig. 4. The result at 3 months.

pressure three times a day. We also arranged postoperative physiotherapy.

Conclusion

This proves an effective result in operations on the TMJ with or without harvesting cartilage or fascia, which can be limited to a retroauricular incision only. The “safe plane” is identified early, which prevents injury to the facial nerve and offers “scarless” operations for young patients and those with a high risk of scarring.

Conflict of interest

We have no conflicts of interest.

Ethics statement/confirmation of patient’s permission

We obtained the patient’s written consent for the photographs used.

References