

PEDICLED TRAGAL CHONDRAL FLAP FOR IRREPARABLE TEMPOROMANDIBULAR JOINT DISC

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Introduction:

Disc perforation is one of the most frequent findings associated with the late stages of TMJ disorders. When the damage is extensive, techniques such as discoplasty, (1,2) discoplasty with replacement, (3) discectomy, (4,5) and discectomy with replacement (6,7) have been proposed as treatment options. It has been widely described in the literature that the use of alloplastic materials for discal replacement causes a foreign-body giant cell reaction, lymphadenopathy, and severe osteoarthritis, among other complications (8). We propose an open method that minimizes the surgical approach and uses local tissues for the reconstruction. This novel technique uses a pedicled tragal chondral flap for closure of disc perforations or total replacement of the disc in irreparable cases without causing esthetic or functional consequences for the donor site.

Surgical technique:

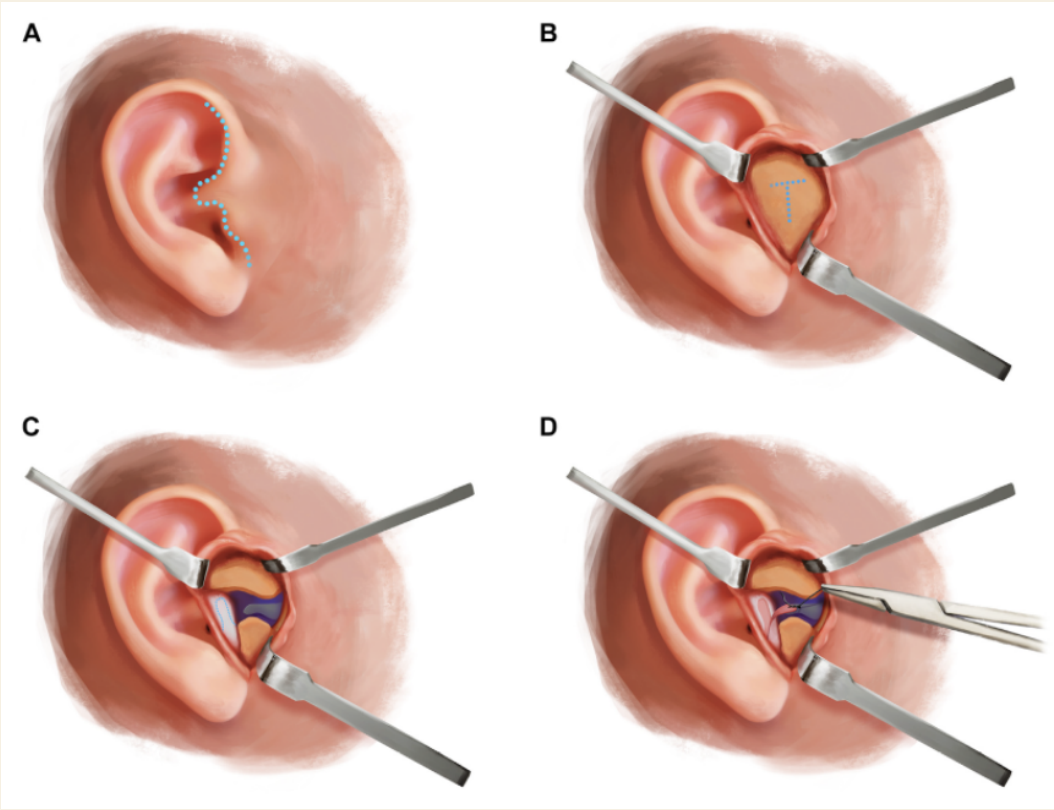


Figure 1: **A:** Cutaneous incision (dotted line). **B:** T-shaped incision is performed over the capsule to access the joint spaces and the disc. **C:** The flap design is outlined by a clean surgical incision, keeping a wide base that allows nutritional supply. **D:** The flap is reflected anteriorly and sutured to the remnant disc or the anterior capsule.

Objective:

To describe a new method using a pedicled sliding flap of the tragal cartilage for closure of disc perforations or total replacement of the disc in irreparable cases without causing esthetic or functional consequences for the donor site.

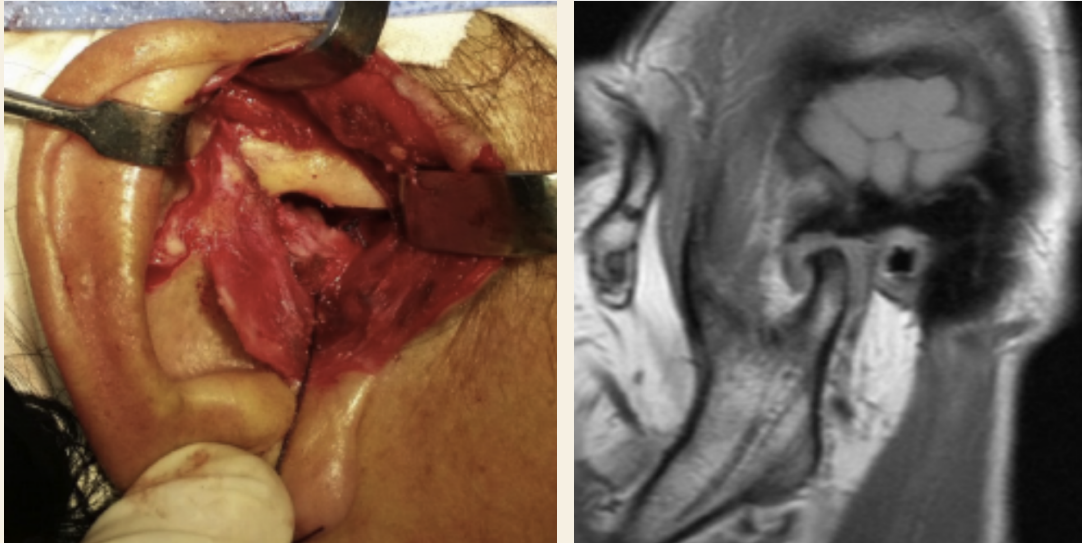


Figure 2: Suture joining flap and disc .

Figure 3: 12-month postoperative magnetic resonance imaging scans.

Discussion:

The auricular cartilage has been used as an autogenous interpositional graft for replacement of the TMJ disc to treat ankylosis (9,10); after discectomy; and more recently, after failure of TMJ operative arthroscopy. (11,12) Yih et al (13) histologically analyzed 30 biopsy specimens of auricular cartilage grafts obtained from 21 patients with diagnoses of ankylosis and arthropathy, concluding that this tissue can resist the foreign-body reaction but, at the same time, it can cause fibrous overgrowth or gross cell proliferation, responsible for ankylosis and symptomatology. Taking into account the advantages of using the auricular cartilage as interpositional material but the disadvantages of using it as a free graft, the primary author designed the tragus pedicled flap to eliminate the foreign-body reaction and kept its vascular supply. The wide pedicle obtained ensures adequate nutritional supply, keeping the vitality of the cartilage intact. As the donor site is adjacent to the operative area, we minimize the symptomatology and morbidity. The composition of the elastic cartilage permits a gentle transposition of the flap to close the defect. In addition, different from the matrix of hyaline cartilage, which calcifies over the years, the matrix of elastic cartilage does not calcify during the aging process. (14)

Conclusions:

We offer this novel technique as an option when other therapeutic measures fail or cannot be performed. We consider closing the disc perforations and/or replacing the disc to be easier and more predictable by means of an autologous cartilage flap.