A Method to Harvest Tragal Cartilage Through only Endaural Approach

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To the editor,

Cartilage or cartilage-perichondrium composite in various forms has been frequently used as graft material to repair the defects left by chronic otitis media; and the tragus is the major site to harvest the needed cartilage [1, 2]. Usually, the harvest is achieved through an additional incision on the lateral or posteromedial of tragal tip [2, 3]. In our experiences of transcanal otosurgery, we found that tragal cartilage could also be obtained conveniently through only endaural incision which was also the access of main otosurgery. Here we present our method.

Method

- (1) The whole procedure is performed under surgical microscope. Local anesthetic (1% Lidocaine mixed with 1:1000,000 epinephrine) is injected into the subcutaneous space on both anterior and posterior sides of the tragus, and this can facilitate the following dissection of the cartilage.
- (2) The first incision is performed between the tragus and the crus helices, moreover parallel with the macroaxis of the external ear canal and reaches the junction of bone and cartilage; this incision is the both access for the main otosurgery and the cartilage-taking.

The incision is made only through skin, with preserving the underlying subcutaneous tissue.

- (3) The second incision for the tympanomeatal flap is addressed at the junction of bone and cartilage, and it carried from 11 to 6 o'clock (left ear) in an circular fashion along the bony external canal to meet the first incision. The second incision is perpendicular to the first one. Following the skin along the first incision dissected from its underlying soft tissue, the flap "a" and "b" are formed as Fig. 1.
- (4) The flap "a" and "b" should be further elevated bilaterally with a scalpel, then an auto-retractor is introduced. The connected tissue and fat under the

Fig. 1 Left ear: The *blue squares* were the flap "a" and flag "b" separately. The two flaps were further elevated bilaterally with a scalpel; the *blue real lines* showed the incision between the superficial skin and its underlying soft tissue. The subcutaneous connective tissue was shown after the flap "a" and "b" were pulled bilaterally; the extent encircled by the *white dashed line* needed to be cut off deep into the surface of the mastoid periosteum. The anterior *white circle* was the tragal cartilage which could be harvested through this incision

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incision should be removed; the resected extension is shown as Fig. 1, deep into the surface of the mastoid periosteum. At this moment the superior edge of the tragal cartilage can be seen.

- (5) Once the connective tissue had been removed; the retractor is taken off; the flap “a” is pulled anteriorly by a mosquito artery forceps; the proposed cartilage can be detached by a scalpel and ophthalmic scissors gradually in a semi-sharp dissection.

Our method has two advantages. One is free of the additional tragal incision, accordingly, saving the surgical time;

the other is better cosmetic effect due to preserving the integrity of the contour in tragus.

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