

부이주에서 진피전환피판술을 활용한 새로운 치료법

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A Dermal Turnover Flap for Treating the Accessory Tragus

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Purpose: Accessory tragus is a fairly common congenital malformation and usually located at pretragal area. Surgical removal is a common treatment of accessory tragus irrespective of location and morphology. Most accessory tragi do not have depression site around them, but some do. So in those cases, simple surgical excision was not enough to promote the aesthetic facial appearance. For depression site remodeling, the excess amount of skin and cartilage need to be remained partially instead of total excision. This method can achieve the symmetric contour of pretragal area. The authors excised the epidermis and cartilaginous tissue totally and remained the dermis for reconstruction of the depression site around accessory tragus. The depression site is filled with dermal turnover flap. The purpose of this report is to present new idea to promote cosmetic result in treatment of accessory tragus containing the depression site.

Methods: Two patients had a pair of accessory tragi at pretragal area. One was a common featured accessory tragus, but the other was different. Depression site was found around accessory tragus. After epidermis and cartilaginous tissue were removed from it, dermis component was used as turnover flap for reconstruction of depression site.

Results: After accessory tragus was removed and depression site was reconstructed, facial contour and

cosmetic result was achieved. Complication such as flap necrosis and wound dehiscence was not observed.

Conclusion: The accessory tragus has variant morphology and degree of invasive depth. And some has a depression site around them. In those cases, simple surgical removal results in morphological distortion and do not promote facial symmetry. The authors suggest dermal turnover flap as reconstruction method of the depression site. This method improves both surgical outcome and cosmetic result.

Key Words: Accessory tragus, Dermal turnover flap

I. INTRODUCTION

Accessory tragus is a congenital skin-colored papule or nodule and is usually located along the imaginary line drawn from the tragus to the angle of the mouth.^{1,2} It can be divided into two types, solitary or multiple, unilateral or bilateral, pedunculated or sessile and soft or firm depending on the presence of the cartilage.^{1,3} Regardless of the type, treatment consists of excision including the excess skin, cartilage, and primary repair. Through this total removal, the patient achieves cosmetic appearance. The accessory tragus is most commonly an elevation of skin containing cartilaginous tissue without depression, however there are some accessory tragi with a depression behind them. The routine total removal method may result in an asymmetric facial appearance. The authors believe it is necessary to restore the depression site using some tissues from the accessory tragus instead of choosing the routine simple excision method. The purpose of this report is to present a method of using a dermal turnover flap for correcting the depression site around accessory tragus. This method enhances the facial contours.

II. IDEAS AND INNOVATIONS

A. Surgical method

The authors mark the accessory tragus and depression

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site with a pen and compare it with the contour of the opposite normal pretragal area. Incision line was drawn on the base of the accessory tragus and incision was done with a # 15 scalpel blade. Epidermis and cartilaginous tissue was excised totally with a Metzenbaum scissor and the remnant dermal flap was preserved to use for correcting the depression site. The dermal flap volume was matched against the depression site volume. After modification of dermal flap volume, the depression site was corrected using the dermal flap in turnover fashion. The corrected depression site compared to the contralateral side pretragal area for symmetric contour. Primary repair was done for skin closure.

B. Case 1

A 5-year-old Korean boy presented with two accessory tragi in front of the right tragal region since birth (Fig. 1). The tragi size was $0.8 \times 0.8 \times 2$ cm (upper) and $0.3 \times 0.3 \times 0.3$

cm (lower) respectively. A depression was noted behind the larger accessory tragus. Simple surgical removal was done to the lower one. In the upper larger accessory tragus, the adjacent depression was corrected by constructing a dermal flap by removing the epidermis and cartilage and filling in the depression.

C. Case 2

A 2-year-old Korean boy was referred to the plastic and reconstructive department because of asymptomatic nodules in the pretragal region of the left ear that had been present since birth (Fig. 2). The upper accessory tragus was $0.3 \times 0.3 \times 0.3$ cm in size, skin-colored, soft, nontender, pedunculated, and without a depression site. The lower larger accessory tragus was $0.5 \times 0.5 \times 1.5$ cm in size, skin-colored, firm, nontender, pedunculated, and with a depression site. The upper one was totally removed by excision and primary repair. The depression site behind the lower accessory tragus was cor-



Fig. 1. Case 1. (Above, left) Preoperative view. Two accessory tragi present on the right pretragal area. (Above, right) Intraoperative view. Depression site behind the accessory tragus. (Below, left) Intraoperative view. Dermal turnover flap was used for correcting the depression site. (Below, right) Postoperative view. Peritragal area contour balance was obtained.

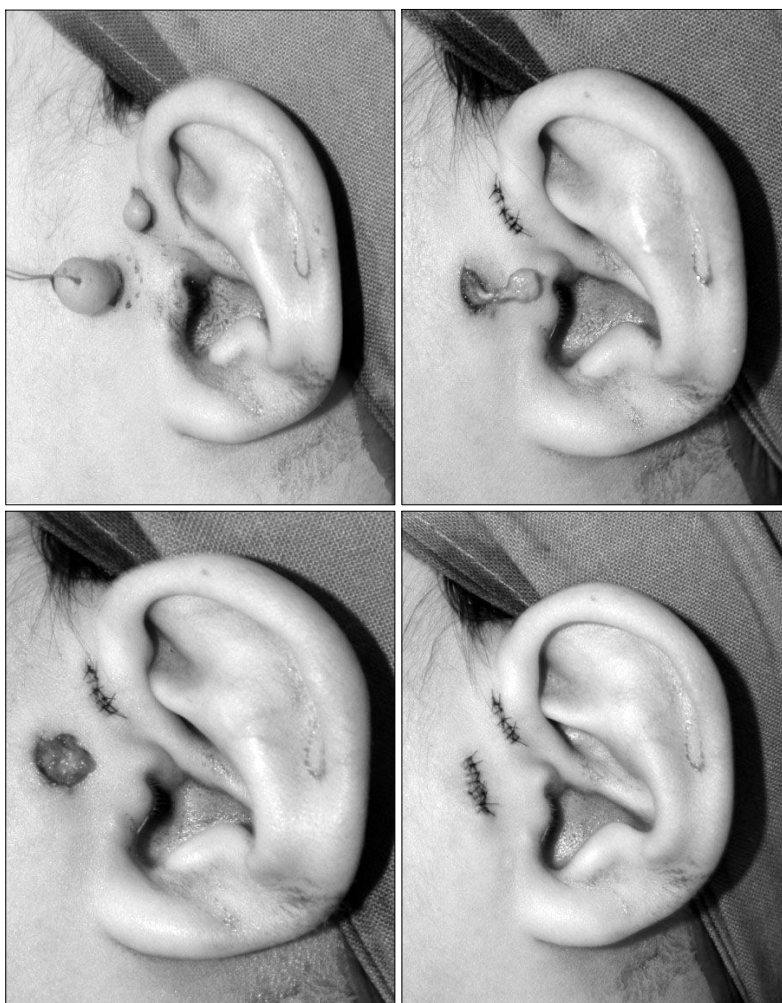


Fig. 2. Case 2. (Above, left) Two accessory tragi were on left pretragal area. (Above, right) Intraoperative view. Epidermis and cartilaginous tissue were removed totally. (Below, left) Intraoperative view. Dermal turnover flap was done for correcting the depression site. (Below, right) Postoperative view. Peritragal area contour balance was obtained.

rected by a dermal turnover flap constructed by removing the epidermis and cartilage.

III. DISCUSSION

Embryologically, the accessory tragus is caused by the maldevelopment of the first and second branchial arches.⁴ During the fourth week of embryonic life, the auricle begins to develop around the first branchial groove from tissue contributed by the first (mandibular) and second (hyoid) branchial arches.⁵ During the fifth week, each arch forms three mesenchymal tubercles.^{2,5} As these 6 tubercles, hillocks of His move dorsally and develop, they fuse to form the structures of the auricle.² The primitive auricle migrates from the lower lateral neck to the side of the head level with the eyes.¹ Along this migratory line, accessory tragus may occur.¹ Most of

accessory tragi were located at anterior to the tragus or ascending crus of the helix.⁴ Occasionally, they are detected along a line from the tragus to the angle of the mouth or along the anterior margin of the sternocleidomastoid muscle.^{1,4} The accessory tragus may exist isolated or may be combined with other congenital anomalies caused by the first or second arch.⁴ Mandibulofacial dysostosis, oculoauriculovertebral syndrome, 4p syndrome, Townes-Brocks syndrome and VACTERL syndrome were known to be associated with accessory tragus.^{5,6}

Most accessory tragi are firm and skin covered nodule with cartilaginous tissue inside.⁷ Histologically, while the presence of cartilaginous tissue is not a necessary unit, numerous telogen phase follicles and prominent connective tissue framework in subcutaneous fat are characteristic features in accessory tragus.^{3,6}

Common treatment of the accessory tragus is surgical removal by excision and primary repair no matter where it is and what its histological feature is. This method usually do not result in any complication. After the accessory tragus is removed, the patient gains the pretragal symmetric appearance. But simple surgical removal always do not promote the best facial aesthetic result. Demirseren, et al.⁷ presented the term macrotragus which was suggested by Park C in 1999. In macrotragus, cartilaginous tissue was smoothly in continuation with the tragal cartilage without any visible boundaries or markings of conjunction.⁷ Because of this difference, enough cartilage and skin were preserved to restore normal tragal contour instead of simple total removal.⁷

In this report, a new method for correcting the depression site adjacent to the accessory tragus is presented. The common simple surgical removal method cannot promote symmetric facial contour because it does not address the depression site. We believe sufficient tissue volume is necessary to fill in the depression site and thus correct the asymmetry. In two cases, the epidermis and cartilaginous tissue were removed totally, while preserving dermal tissue. The constructed dermal flap was used in turnover fashion to fill in the depression site.

The patients obtained pretragal symmetry and good cosmetic result via the dermal turnover flap method.

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