Development & Clinical Application of New Biomaterial Can Make Patients Happy:
Patient Satisfaction With a Tissue Adhesive in Preauricular Fistulectomy

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Introduction
Tissue engineering is an emerging multidisciplinary field involving medicine and engineering that is likely to revolutionize the ways that can improve the health. Although this field can make much progress in clinical situation, there has been somewhat gap between clinicians and engineers. There is an increasing demand for office-based outpatient procedures performed by otolaryngologists. For patients who undergo office-based outpatient procedures or are discharged from the hospital prior to stitch removal, the dressing and care of the surgical wound are not only important, but often troublesome to both patients and surgeons.

Although several tissue adhesive materials have been developed for this purpose, most clinicians are unfamiliar to these new innovations for a variety of reasons. The goal of this study was to examine the efficacy and advantages of the tissue adhesive in skin closure of a preauricular fistulectomy from the viewpoint of the patient.

Materials and Methods

Patient selection.
This study included only those patients who had a classical preauricular fistulectomy (no incision and drainage) and those patients who could receive follow-up for at least 3 months.

Surgical skin closure techniques.
Tissue adhesive group; Dermabond®
Nylon group; 5-0 nylon suture

Figure 1. Photographs of the patients whose skin was approximated with Dermabond®. (A) The small opening was made and a silastic drain was inserted from the most-dependent portion of the surgical wound to the orifice of the external auditory canal, away from the auricular cartilage (arrow). (B) After a subcutaneous layer was sutured with 4-0 Vicryl and the skin was cleaned with alcohol-soaked gauzes, Dermabond® was applied in multiple thin layers. A long knot remained at the drain-inserted site to be tied after the silastic drain was removed.

Evaluations.
1) Postoperative photographs taken at least 1 month after the operation; Blind assessment by one otologist; Hollander Wound Evaluation Scale (HWES).
2) Questionnaire regarding patients’ satisfaction; visual analogue scale (VAS) and open-ended questions.

Statistics.
Chi-squared test, Mann-Whitney test, and the Wilcoxon signed rank test were used with SPSS software program (SPSS Inc, Chicago, Ill); P < 0.05 was considered statistically significant.

Results
1) Total = 52 patients (29 men, 23 women; mean age: 17.3±14.6 years). Tissue adhesive group = 33 patients (15 men, 18 women; mean age: 12.6±14.7 years). Nylon group = 19 patients (8 men, 11 women; mean age: 14.6±13.8 years).
2) Cosmetic outcome; Hollander Wound Evaluation Scale. The mean HWES score of tissue adhesive group was 4.3±0.6. The mean score of nylon group was 4.0±0.9. There was no significant difference of the HWES score between two groups (P = 0.668).
3) Questionnaire. Regarding general satisfaction, the mean VAS score was 9.4±0.6 in tissue adhesive group 9.5±0.7 in nylon group. There was no significant difference in the VAS scores between two groups (P = 0.742).

Discussion and Conclusions
The tissue adhesive offered equivalent wound closure as traditional suture for preauricular fistulectomy. Tissue adhesive is a safe method for closing wounds in preauricular fistulectomy and has many advantages, especially in young children and young women. Tissue engineering has been considered as a new medical paradigm. I suggest that viewing tissue engineering as a new medical paradigm allows us to develop a wider perspective for successful management of patients.

Disclosures
Nothing to disclose