

ustekinumab.

Although controlled clinical trials will be required to establish the effectiveness of ustekinumab in AD, we suggest that ustekinumab might be a useful and safe treatment of refractory AD in young patients.

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The Efficacy of Complete Surgical Excision of Keloid and Piercing Sinus Tract on Earlobe Keloid

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Dear Editor:

The external ear is one of the most common sites for keloid formation. Many different treatment modalities such as surgical excision, intralesional corticosteroids, radiotherapy and pressure earrings have been used for earlobe keloids¹. Among them, surgical excision is used either as a monotherapy or as a part of a combination therapy. It is thought that the recurrence rate of earlobe keloids after monotherapy with surgical excision is higher than that after combination therapy. This study evaluated the efficacy of complete surgical excision for earlobe keloids. This study was approved by institutional review boards of Kyungpook National University Hospital.

We retrospectively reviewed 20 patients with earlobe

keloids treated with complete surgical excision (Fig. 1) regardless of clinical subtypes¹ (anterior button, posterior button, dumbbell, wraparound, lobular) from January 2000 to May 2012 in our clinic. In this study, complete surgical excision of earlobe keloids was designed for the total removal of the keloidal mass and piercing sinus tract. Earlobe keloids were diagnosed by clinical and histopathological examination. We also retrospectively evaluated 15 patients with earlobe keloids who were treated with a combination of surgery and post-surgical adjunctive therapy. The recurrence rate of complete surgical excision was compared with that of surgery and adjunctive therapy. In addition, clinical subtypes, age, accompanying keloid and size were assessed for their effect on the

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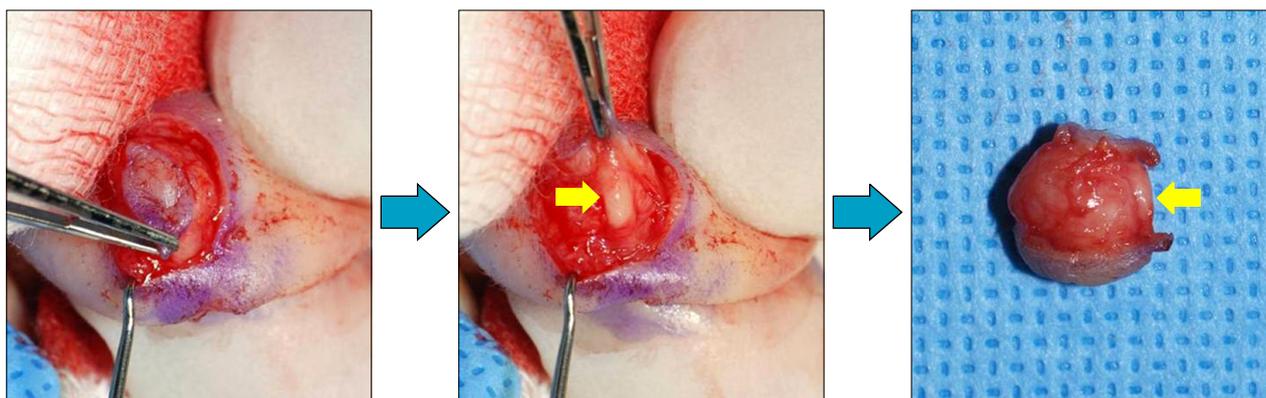


Fig. 1. Complete surgical excision of earlobe keloid. The sinus tract, which is indicated by yellow arrows, should be totally removed. If not, the remaining sinus tract may become a cause of keloid relapse.

recurrence rate after complete surgical excision. Statistical analysis was performed using chi-square and Fisher's exact tests. A $p < 0.05$ was considered to be statistically significant.

The age of the 20 patients in the study (the ratio of male to female was 0 : 20) was variable (ages 16 to 52 years; mean age 25.3 years) (Table 1). All patients were treated with complete surgical excision and histopathology confirmed the characteristics of keloids as well as the sinus tract in the keloidal mass were present. Fifteen patients treated with a combination of surgery and postsurgical adjunctive therapy consisted of 12 females and 3 males (ages 20 to 61 years; mean age: 28.2 years) (Table 1). Adjunctive therapy included intralesional injection of corticosteroid, radiotherapy, pressure earrings, intralesional application of 5-fluorouracil and mitomycin C. The recurrence rate of earlobe keloids in patients treated with complete surgical excision was 20% (4 out of 20). The 1-year follow-up recurrence rate of earlobe keloids in patients treated with complete surgical excision was 27% (4 out of 15). The recurrence rate of earlobe keloid after a combination of surgery and postsurgical adjunctive therapy was 40% (6 out of 15). The 1-year follow-up recurrence rate of earlobe keloid after a combination of surgery and postsurgical adjunctive therapy was 42% (5 out of 12). There was no statistically significant difference in the recurrence rate of earlobe keloids between the two groups ($p > 0.05$). Differences in the recurrence rate of earlobe keloids in patients treated with complete surgical excision according to clinical subtype, age, accompanying keloid and size were not statistically significant ($p > 0.05$). Keloids of the chest and shoulder are relatively resistant to treatment, with high recurrence rates after treatment with a single therapeutic modality. Earlobe keloids need to be considered differently from other keloids. Earlobe keloids show lower tension and have a piercing sinus tract co-

vered with keratinocytes. Many authors have noted a lower rate of keloid recurrence in the earlobe^{2,3}. In the current study, the recurrence rate after complete surgical excision was 20% (27% at the 1-year follow-up). The superior outcome of complete surgical excision of earlobe keloids likely results from the lower skin tension in this region and the removal of the intrakeloidal sinus tract. There have been clinical observations that wounds subjected to increased skin tension are more likely to form keloids. The fleshy tissue of the earlobe makes closure without tension easier to accomplish¹. Moreover, discontinuation of the wearing of earrings after complete surgical excision of earlobe keloids reduces the tension from the weight of earrings. Mechanical tension is capable of inducing several cell functions, including stimulation of gene expression, protein synthesis and proliferation^{4,7}. A recent study revealed that there was increased formation of focal adhesion complexes of keloid fibroblasts which had increased expression of transformation growth factor (TGF)- β 1, TGF- β 2, and collagen I compared with normal fibroblasts⁸. The sinus tract is thought to be the leading edge and cause of skin irritation in earlobe keloids. The role of keratinocytes is of interest because not only do they secrete autocrine proteins, but they also secrete cytokines in paracrine-like fashion into the extracellular domain to induce local proliferative, metabolic and immunologic activities. One recent study compared the influence of keloid-derived keratinocytes and normal keratinocytes on the growth and proliferation of fibroblasts in an *in vitro* serum-free coculture system. It revealed that there was a considerable increase in the proliferation of the fibroblasts cocultured with keloid-derived keratinocytes, as compared with the normal keratinocyte controls⁹. This strongly suggests that keloid-derived keratinocytes might have an important role in keloid pathogenesis by producing signals that stimulate fibroblasts in the under-

Table 1. Patient demographics

No. of group A	Sex/age	Subtype	Size (cm)	Other keloids	Follow-up (mo)	Recurrence
1	F/16	Anterior button	0.6	Yes	59	Yes
2	F/24	Posterior button	0.3	Yes	92	Yes
3	F/22	Anterior button	1.3	No	16	No
4	F/23	Anterior button	1.3	No	16	No
5	F/21	Anterior button	1.0	No	16	No
6	F/23	Anterior button	0.6	No	27	No
7	F/21	Posterior button	1.0	Yes	67	No
8	F/35	Posterior button	1.2	No	19	No
9	F/20	Posterior button	1.0	Yes	38	No
10	F/52	Posterior button	1.5	No	81	No
11	F/40	Dumbbell	1.5	No	19	No
12	F/23	Dumbbell	1.8	No	19	Yes
13	F/29	Lobular	1.5	No	36	No
14	F/21	Dumbbell	1.5	No	12	Yes
15	F/21	Dumbbell	0.5	No	12	No
16	F/26	Posterior button	0.5	No	10	No
17	F/19	Anterior button	1.0	No	10	No
18	F/25	Posterior button	1.0	Yes	7	No
19	F/20	Wraparound	2.0	No	5	No
20	F/33	Wraparound	1.5	No	2	No

No. of group B	Sex/age	Subtype	Size (cm)	Other keloids	Follow-up (mo)	Adjunctive treatment	Recurrence
1	F/24	Anterior button	1.5	No	62	IL	Yes
2	M/31	Anterior button	1	No	86	IL+RTx	Yes
3	F/20	Posterior button	2	No	90	IL+earrings	Yes
4	F/25	Dumbbell	1	No	51	IL	Yes
5	F/23	Lobular	3	No	66	IL	Yes
6	F/42	Anterior button	2	No	63	IL+earrings	No
7	F/23	Anterior button	1	No	37	IL+earrings	No
8	M/21	Dumbbell	1	No	54	IL+5FU+mito	No
9	F/33	Dumbbell	3.5	No	39	5-FU	No
10	M/34	Dumbbell	1.5	No	17	IL+earrings	No
11	F/61	Wraparound	1	No	49	IL+mito	No
12	F/23	Posterior button	1.5	No	14	IL	No
13	F/21	Dumbbell	2	No	10	IL	Yes
14	F/14	Anterior button	5	No	9	IL	No
15	F/25	Anterior button	6	No	2	IL	No

Group A treated with complete surgical excision designed for the total removal of keloid mass and piercing sinus tract; group B treated with surgery and postsurgical adjunctive therapy.

No.: number, F: female, M: male, IL: intralesional corticosteroids, RTx: radiotherapy, earrings: pressure earrings, 5-FU: 5-fluorouracil, mito: topical mitomycin C.

lying dermis to proliferate or produce more extracellular matrix⁹. Moreover, other data have suggested that the leading edge of the keloid, which is thought to be the sinus tract, is different from the center where the process has already burned out¹⁰. This would suggest that removal of the sinus tract may help prevent recurrence of the keloid.

In this study, all earlobe keloids were removed by complete surgical excision. There was no statistical significance according to clinical subtype. We could not find statistical signifi-

cance in the recurrence rate of earlobe keloids in patients with complete surgical excision according to age (2 were teenagers, 14 in their 20s, 2 in their 30s, 1 in her 40s and 1 in her 50s), accompanying keloids (5 had an accompanying keloid) and size (8 had a keloid less than 1.0 cm in size and 12 had a keloid over 1.0 cm in size).

This study showed the recurrence rate of complete surgical excision was as low as that in combination therapy using surgery and postsurgical adjunctive therapy. We believe these results come from the removal or decrease

of keloid-promoting factors, such as removal of the sinus tract and reduction of tension in the tissues. Additional factors including age, clinical subtype, accompanying keloid and size should be further evaluated for their effect on the recurrence rate of earlobe keloids.

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Carcinoma Erysipeloides from Adenocarcinoma of the Lung

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Dear Editor:

Lung cancer usually metastasizes the brain, bone, liver, adrenal gland, kidneys, and gastrointestinal tract¹. Lung cancer is the first cancer of cutaneous metastasis found in men and is second to breast cancer for women². Adenocarcinomas have been estimated to account from

3.1% to 45.0% for cutaneous lung metastases^{1,3}. Some adenocarcinomas to the skin from the lung show well-formed, glandular structures, which are similar to gastrointestinal metastatic adenocarcinomas².

A 67-year-old woman was referred for a pruritic, erythematous plaque on the neck for two months. The lesion

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