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# Aesthetic Approach to Refractory Auricular Keloid: Combining Laser Excision and Intralesional Corticosteroids

**Kai Sun Teo and Kenneth Lee***
Dr Plus Aesthetics Clinic, Johor Bahru. Malaysia

***Corresponding author:** Kenneth Lee, Dr Plus Aesthetics Clinic, Johor Bahru. Malaysia

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## Abstract

**Background:** Auricular keloids remain a therapeutic challenge due to their high recurrence rates and resistance to monotherapy, particularly in aesthetically sensitive areas.

**Case Presentation:** A 32-year-old Asian woman presented with a 5-year history of a refractory keloid over the left auricular helix measuring 3 × 2 cm following ear piercing. The lesion persisted despite multiple sessions of intralesional corticosteroid therapy, with minimal clinical improvement.

**Intervention:** A multimodal treatment strategy was implemented, consisting of laser-assisted excision followed by immediate and serial postoperative intralesional triamcinolone acetonide injections.

**Outcome:** The combined approach aimed to achieve complete lesion removal while suppressing fibroproliferative activity to reduce recurrence risk and optimize cosmetic outcome.

**Conclusion**: This case highlights the efficacy of a combined surgical and pharmacologic approach in the management of refractory auricular keloids. Multimodal therapy remains essential in achieving durable results and satisfactory aesthetic outcomes in high-risk lesions.

## Keywords

Auricular keloid; laser excision; intralesional corticosteroids; triamcinolone; aesthetic dermatology; scar management.

## Introduction

Keloids are benign fibroproliferative scars characterized by excessive collagen deposition extending beyond the original wound margins [1,2]. Auricular keloids frequently arise after ear piercing and are a common concern in aesthetic practice due to their visibility and psychosocial impact.

Management is challenging because single-modality treatments are associated with high recurrence rates. Intralesional corticosteroids remain first-line therapy due to anti- inflammatory and anti-fibrotic effects [3]. However, long-standing or large lesions often respond poorly. Surgical excision alone carries recurrence rates of 50–100% [4], emphasizing the need for adjunctive therapy. Combination strategies—surgery with corticosteroids, silicone therapy, pressure therapy, or radiotherapy—are recommended to reduce recurrence and optimize aesthetic outcomes [5–8]. This report presents a case of a refractory auricular keloid successfully managed with laser excision and intralesional corticosteroids, highlighting a practical multimodal aesthetic approach.

## Case Presentation

A 32-year-old Asian woman with no known underlying medical illnesses presented to the aesthetic clinic with concerns about a keloid over her left auricular helix. She reported that the keloid developed approximately five years ago following ear piercing. Since then, the lesion has progressively enlarged. She had previously undergone multiple intralesional injections (likely corticosteroids), but noted no significant reduction in the size of the keloid.

Her main concern was the persistent size of the lesion and her desire for removal, particularly due to work-related requirements and cosmetic reasons. She denied any prior history of aesthetic surgical procedures. There was no history of smoking, alcohol consumption, or known drug or environmental allergies.

On examination, there was a keloid located over the left ear helix measuring approximately 3× 2 cm. The lesion was firm, raised, and well-defined, extending beyond the original site of injury. There were no signs of acute inflammation such as erythema, warmth, or discharge. No tenderness was noted on palpation.

Following a detailed consultation, the patient was offered both conservative and surgical treatment options.

The patient was informed that conservative treatment would involve intralesional corticosteroid (ILSC) injections using triamcinolone acetonide (Shincort) at a concentration of 40 mg/mL. The injections would be administered into the keloid until blanching is observed. This treatment would be given at 3- week intervals, with a total of approximately 8–10 sessions required. She was counselled that this approach would require a longer duration and is expected to gradually reduce the size of the keloid rather than completely remove it.

The second option discussed was surgical removal using laser excision, followed by post- procedural intralesional corticosteroid injections to reduce the risk of recurrence.

She was informed that this approach offers faster results with complete removal of the keloid, but requires wound healing time and will result in a scar. The risks, benefits, and possible complications—including recurrence, infection, and scarring—were thoroughly explained.

After discussing both options, the patient expressed a preference for a faster and definitive treatment outcome due to occupational requirements. She understood the potential risks and complications and elected to proceed with surgical management, consisting of laser excision of the keloid followed by intralesional corticosteroid injections post-procedure. Informed consent was obtained for the treatment and clinical photography.

**Figure 1:** Preoperative image of left auricular helix keloid. (anterior).

**Figure 2:** Preoperative image of left auricular helix keloid. (posterior).

## Procedure

The procedure was performed under aseptic conditions.

Local anesthesia with lidocaine was administered. Laser-assisted excision was carried out with careful dissection to achieve complete removal of the keloid while preserving adjacent normal tissue.

Immediate intralesional injection of triamcinolone acetonide (40 mg/mL) was administered into the wound margins following excision. The wound was subsequently closed using nylon 3/0 sutures. Hemostasis was achieved, and a topical antibiotic with sterile dressing was applied.

**Figure 4:** Post suture and left auricular helix keloid successful removed.

## Postoperative Care and Follow-up Plan

Postoperative care included standard wound management with instructions to maintain cleanliness and dryness of the surgical site. Analgesics were prescribed as needed.

Serial intralesional corticosteroid injections were planned at 3-4-week intervals based on clinical assessment. The patient was counselled regarding the risk of recurrence and the importance of adherence to follow-up.

Follow-up evaluations were conducted at Day 7, Day 14 ,1 month, and 3 months post- procedure.

## Results

Photographic Documentation: Standardized digital photography was performed at each visit using consistent lighting, angle, and background.

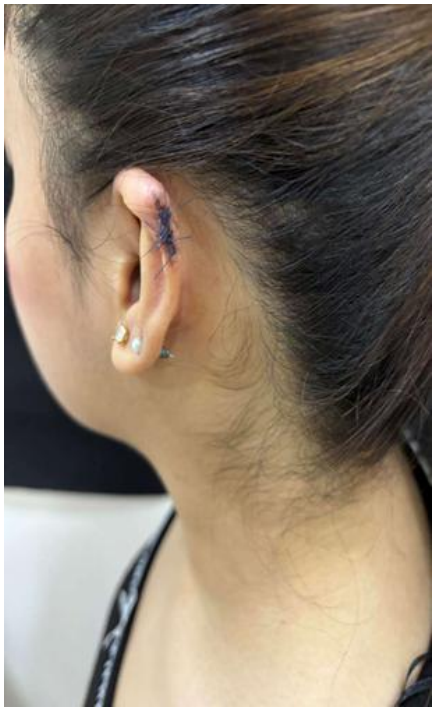

**Figure 5:** Post operatively Day 7.

**Figure 6:** Post operatively Day 14 and removed S.

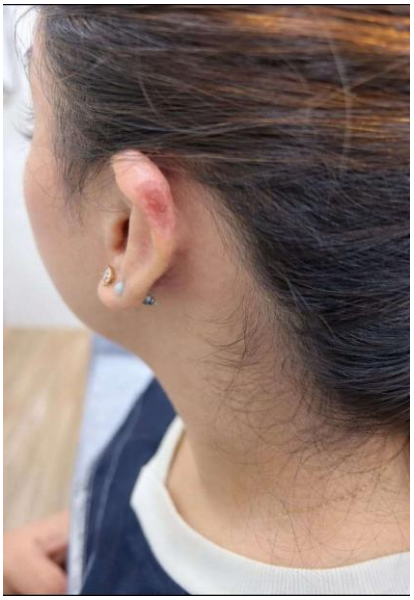

**Figure 7:** Post operatively 3 months.

The postoperative course was uneventful, with satisfactory wound healing observed.

At 3-month follow-up, there was no clinical evidence of recurrence. The aesthetic outcome was favorable, with preservation of auricular contour and minimal scarring.

## Discussion

Auricular keloids are challenging due to abnormal fibroblast activity and excessive collagen deposition. Chronic lesions often fail to respond to intralesional corticosteroids alone [3]. Surgical excision provides immediate reduction but is associated with high recurrence when used as monotherapy [4,5].

Laser-assisted excision offers advantages in precision, hemostasis, and tissue preservation in delicate auricular anatomy. Immediate postoperative corticosteroid injections suppress fibroblast proliferation and modulate early wound healing, reducing recurrence risk [5,6].

Evidence supports multimodal therapy as the most effective strategy for refractory keloids [6,7]. In aesthetically sensitive regions, combination therapy optimizes both clinical efficacy and cosmetic outcomes. Patient-centered decision-making is crucial, and in this case, the approach aligned with the patient's desire for rapid and definitive resolution.

## Conclusion

Refractory auricular keloids require a multimodal, individualized approach. Laser excision combined with intralesional corticosteroids can achieve effective lesion control, minimize recurrence, and maintain aesthetic contour. Early recognition of treatment resistance and timely escalation to combination therapy are essential in aesthetic practice.

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