

Achieving Recurrence-Free Pinna Keloids: Precision Surgery Combined with Targeted Steroid Therapy

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ABSTRACT

Purpose: Pinna keloids are a fairly common abnormal scar formation which are difficult to manage because of their tendency to recur. We are presenting a case of young female with bilateral pinna keloids and its management, which was treated by careful surgical excision along with postoperative corticosteroid injection.

Case: A 24-year young female developed progressively enlarging swellings in bilateral pinna helix after piercing. Complete surgical excision was performed with careful dissection to ensure complete removal without leaving behind any residual tissue. Intralesional triamcinolone injection was also administered immediately after surgery and steroid injection was continued in a tapered dosage over six months after excision.

Outcome: The post-operative period was uneventful. The patient showed excellent cosmetic outcome with symmetrical pinnae after surgery and no recurrence was noted even after 24-months of regular follow-up.

Conclusion: Meticulous surgical removal along with adjuvant steroid injection gives highly satisfactory cosmetic results in the management of pinna keloids.

KEYWORDS: Pinna keloid, steroid injection, recurrence, cosmetic result.

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INTRODUCTION

Keloids are an abnormal wound healing response characterized by excessive proliferation of collagen rich tissue extending beyond the region of initial injury. Pinna is a common site of keloid formation largely due to piercing related trauma. Surgical excision alone is associated with high risk of recurrence, recurrence rate reaching up to 80-100%.^{1,2}

Experiences from cosmetic surgery show that long term control of keloid depends on complete removal of the keloid, careful handling of tissue, followed by supportive measures like intralesional steroid injection.^{3,4} This case shows the usefulness of these methods in routine ENT practice that can help achieve recurrence free results in pinna keloids.

CASE REPORT

A 24-years-old female came to the ENT clinic with complaints of gradually increasing swelling over both the pinna at the region of Helix since past three years. The swelling had started after she got her pinna pierced. She also reported some discomfort, occasional itching, and she felt self-conscious about her appearance.

On examination of both the pinnae, there was a firm, well defined nodular swelling over the Helix of pinnae of size

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measuring 3 x 2.5 cm on the right side and 4x3 cm on the left side, as shown in Figure 1. The overlying skin was normal, smooth, and intact, no ulcerations or pigmentations noted. There was no personal or family history of abnormal scar formation. Routine laboratory tests were done which were found to be within normal limits.

Surgical technique

Both the pinnae keloids were operated together in a single sitting. Under local anesthesia, an elliptical skin incision was made along the margins of the lesion, preserving some extra skin over the keloids. The incision was planned in such a way that excess skin could be used as a flap placing the suture line in the medial aspect of the pinna for better cosmetic results. Careful dissection was done just within the dermal planes to ensure complete removal of the mass without leaving any residual keloid tissue. The wound was closed with 6-0 nylon suture material using interrupted sutures as shown in the Figure 2. The patient also had small

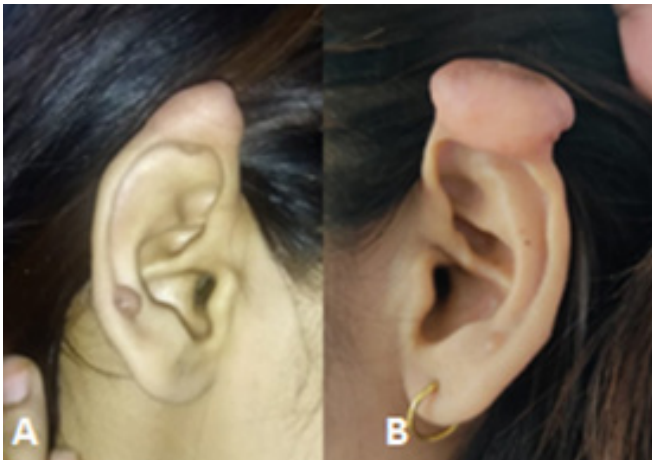


Figure 1. Preoperative images of the right (A) and left (B) ear showing pinna keloids.



Figure 2. Immediate postoperative images of the right (A) and left (B) ear after removal of pinna keloids.

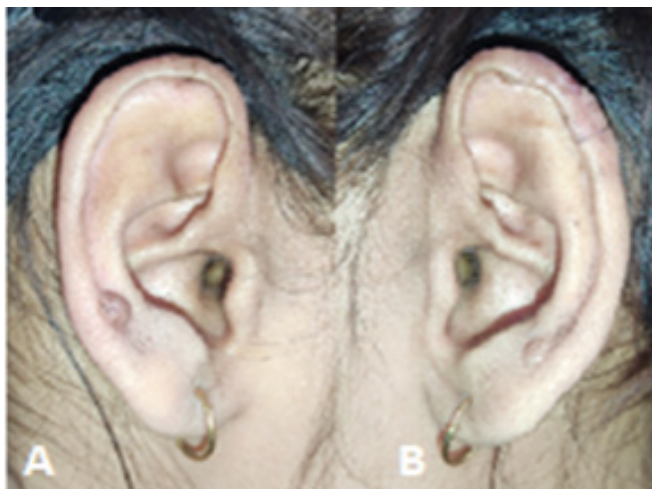


Figure 3. Postoperative results at 24 months showing the right (A) and left (B) ear following excision of pinna keloids.

keloids on the lower part of both helices, which were not treated as per her consent.

After closure, 0.5 mL of triamcinolone acetonide (40 mg/mL) was injected along the wound margins.

Post-operative steroid therapy

A standard injection schedule was followed,⁷ weekly triamcinolone (10-20 mg/mL) for the first one month, followed by once in 2-weeks regimen for next two-month, followed by once monthly for another three months.

Outcomes and follow-up

Both surgical sites healed well without any complications, and the cosmetic outcome was satisfactory as reported by the patient. At the 24-months follow-up, the ear Helix maintained a symmetrical shape and normal skin texture without any thickening or pigmentation as shown in Figure 3. The patient was highly satisfied with the appearance and overall comfort. No recurrence was noted on regular follow up at 3, 6, 12 and 24-months.

DISCUSSION

Auricular keloids are one of the most difficult types of scars to treat. Ear keloids are usually seen after ear piercing especially in young women and have very high recurrence rate when treated with surgery alone.⁵ Recent studies suggest that combined approach, both surgical removals followed by adjuvant therapy in the form of steroid injection, is essential to achieve better long-term control. Two major reasons for recurrence are incomplete excision and continued fibroblast over-activity.⁶ In this case, the surgical plan was aimed at complete removal of abnormal tissue along with tension free skin closure to reduce triggers for new scar formation.

Adjuvant therapy after surgery plays a very important role in reducing fibroblastic activity and limiting collagen deposition during the phase of wound healing.⁷ In our patient, steroid injection was started immediately after surgery which is consistent with recommendations from several previous surgical case series.^{3,7}

The recurrence free status in this patient at 24-months highlights 3 important points:

1. Complete excision of the keloid is paramount in preventing recurrence.
2. Meticulous tissue dissection and careful tissue handling is important to prevent from leaving behind any residual keloid tissue.
3. Long-term adjuvant therapy in the form of steroid injection is essential after surgery.

Recent studies suggest that viral factors may play a role in the development of keloids. Epstein-Barr virus (EBV) has been detected in keloid tissue and is thought to influence fibroblastic activity by altering cytokine signaling and growth factor regulation.⁸ In our case, EBV testing was not performed as it is not routine clinical practice.

CONCLUSION

Long-term control of pinna keloid is achievable when precise surgical removal is performed combined with postoperative steroid regimen. ENT surgeons who practice reconstructive techniques can achieve good cosmetic results while keeping recurrence rate low.

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