

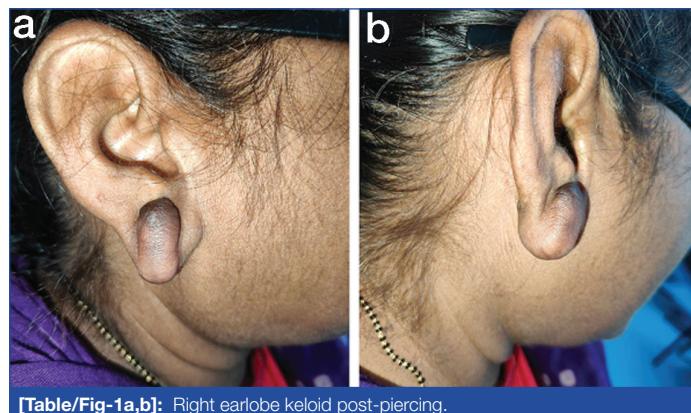
Keloid Scarring in the Earlobe: From Piercing to Treatment

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A 48-year-old female office worker presented in Ear, Nose and Throat (ENT) Outpatient Department (OPD) with a progressively enlarging, painless mass on both her earlobes, which she noticed about eight months ago. Both the lesions started after she had an ear piercing several years ago; and initially were small but have grown over time. The patient reports occasional itching but no pain, drainage, or signs of infection. She is concerned about the cosmetic appearance of the mass. There is no history of recent trauma to the area, and the patient denies any changes in the surrounding skin. She has no significant medical history and no known allergies. Although her maternal aunt has a history of keloids, there is no family history of similar lesions in other areas of the patient's body.

The lesion on the right earlobe measures approximately $2.5 \times 2 \times 2$ cm and is raised, firm, and hyperpigmentation, extending beyond the borders of the original piercing [Table/Fig-1a,b]. The lesion on left ear measures approximately $2 \times 2 \times 2$ cm and is similar to the lesion on the other ear [Table/Fig-2a,b]. The lesions were well-defined, non tender, and smooth, with no evidence of inflammation, ulceration, or discharge. There is no regional lymphadenopathy.



[Table/Fig-1a,b]: Right earlobe keloid post-piercing.

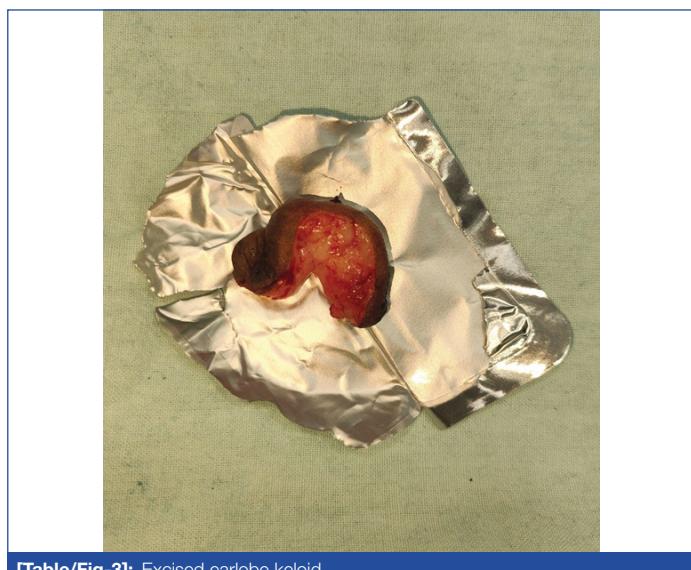


[Table/Fig-2a,b]: Left earlobe keloid post-piercing.

such as that caused by an ear piercing. Other differential diagnoses include hypertrophic scars, which also result from excessive collagen but remain within the boundaries of the wound, and infectious granulomas. However, the absence of discharge makes this less likely. Dermatofibromas and molluscum contagiosum, though less probable, are also considered in the differentials.

A clinical diagnosis of keloid was made based on the history and appearance of the lesion. For management, conservative measures were recommended initially. These include silicone gel sheets or pressure therapy to help flatten the lesion and reduce further growth.

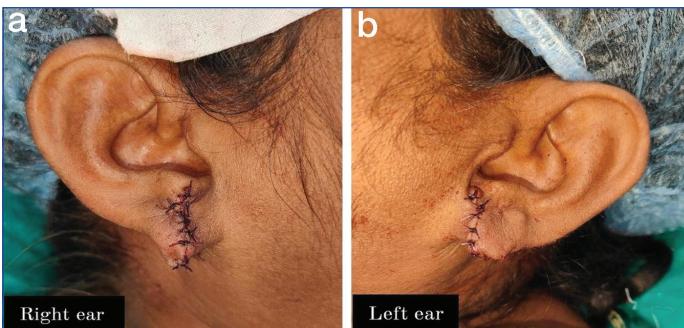
When the conservative treatments failed, the patient opted for surgical excision of both the earlobe keloids. Both earlobe keloids were excised under local anaesthesia [Table/Fig-3], which was followed by bilateral lobuloplasty [Table/Fig-4a,b]. Suturing was done using Vicryl 3-0 Coated Braided (CB) absorbable suture material. Both the earlobes were dressed with mupirocin ointment, and the patient was called for suture removal after seven days. A seven-day course of antibiotic Tablet Augmentin 625 mg BD was given and follow-up after a week was advised. Excision carries a high risk of recurrence, and adjunctive therapies such as post-excision steroid injections, silicone gel sheets, or radiation therapy were explained to the patient.



[Table/Fig-3]: Excised earlobe keloid.

The patient was educated about the benign nature of keloids and the possibility of recurrence after treatment. She was advised to avoid further trauma to the earlobe and not to pierce the area again to prevent the worsening of the keloid. Conservative treatments such as silicone sheets and steroid injections are recommended initially, with follow-up scheduled in 4-6 weeks to assess progress. If there is inadequate improvement, further interventions like surgery or additional steroid injections may be considered. The prognosis for keloids is variable; while treatment can reduce their size and

Given the clinical presentation and the patient's history, the most likely diagnosis was earlobe keloid, a benign fibroproliferative lesion resulting from excessive collagen deposition following trauma or inflammation,



[Table/Fig-4a,b]: Bilateral earlobe keloid excision followed by lobuloplasty under LA.

appearance, recurrence is common, and multiple treatments may be required for optimal results.

The term keloid originates from the Greek word “chele,” meaning crab’s claw, introduced by French dermatologist Jean-Louis Alibert in 1806. The term reflects the lesion’s tendency to spread irregularly into surrounding tissues, resembling a crab’s claw [1].

Keloids are now understood as a pathological response to skin injury characterised by excessive collagen deposition and abnormal wound healing [2]. They typically occur following trauma, surgery, burns, acne, ear piercings, or even minor injuries such as insect bites or vaccinations. Unlike hypertrophic scars, keloids extend beyond the original wound margins and do not regress spontaneously over time [3].

Keloids are more common in individuals with darker skin tones, such as those of African, Hispanic, or Asian descent, with a peak incidence in the 10-30 years age group. While the precise aetiology is unknown, genetic predisposition and environmental factors (e.g., wound tension and inflammation) are thought to play significant roles in their development [4].

Conservative management is typically the first-line treatment, especially for smaller or early-stage keloids. Silicone gel sheets or dressings can help flatten the keloid and reduce redness, though consistent use over weeks to months is necessary for optimal results [5]. Intralesional corticosteroid injections, most commonly using triamcinolone acetonide (10-40 mg/mL), are highly effective in reducing keloid size, inflammation, and symptoms such as itching or pain. These injections are usually repeated every 4-6 weeks, often requiring multiple sessions. Pressure therapy, using custom-made pressure earrings or clips, is another

effective conservative measure that reduces blood flow to the keloid, thereby limiting its growth [6].

For larger lesions or those unresponsive to conservative treatments, surgical excision may be considered. While surgery provides immediate removal of the keloid, it carries a high recurrence risk (upto 70-100%) if not combined with adjunctive therapies. To minimise this risk, postoperative interventions such as steroid injections, silicone gel sheets, and pressure earrings are essential [7]. Other treatment modalities include cryotherapy, which is particularly effective for smaller keloids and may be combined with steroid injections to enhance results. Laser therapy, such as Pulsed Dye Laser (PDL) or fractional CO₂ laser, can improve the keloid’s appearance by reducing redness and flattening the lesion [8]. For resistant cases, intralesional injections of 5-fluorouracil (5-FU) or bleomycin may be used to inhibit fibroblast activity and collagen production [9].

Earlobe keloids, though benign, can significantly impact a patient’s quality of life due to cosmetic concerns, physical discomfort, and the potential for recurrence. Effective management involves a comprehensive approach that combines conservative treatments, surgical options, and adjunctive therapies to address both the keloid itself and the underlying factors contributing to its growth.

REFERENCES

- [1] Roenigk RK, Ratz JL, Roenigk HH. Keloids/Nathan Rosen, Steven C. Bernstein, and Randall K. Roenigk. InRoenigk’s Dermatologic Surgery 2016 Apr 19 (pp. 439-450). CRC Press.
- [2] Limandjaja GC, Niessen FB, Scheper RJ, Gibbs S. The keloid disorder: Heterogeneity, histopathology, mechanisms and models. *Front Cell Dev Biol.* 2020;8:360.
- [3] English RS, Shenefelt PD. Keloids and hypertrophic scars. *Dermatol Surg.* 1999;25(8):631-38.
- [4] Kiprono SK, Chaulia BM, Masenga JE, Muchunu JW, Mavura DR, Moehrle M. Epidemiology of keloids in normally pigmented Africans and African people with albinism: Population-based cross-sectional survey. *Br J Dermatol.* 2015;173(3):852-54.
- [5] Fulton Jr JE. Silicone gel sheeting for the prevention and management of evolving hypertrophic and keloid scars. *Dermatol Surg.* 1995;21(11):947-51.
- [6] Yin Q, Louter JM, Niessen FB, Gibbs S, Tasdemir-Kilic G, Lapid O, et al. Intralesional corticosteroid administration in the treatment of keloids: A scoping review on injection methods. *Dermatology.* 2023;239(3):462-77.
- [7] Lee Y, Minn KW, Baek RM, Hong JJ. A new surgical treatment of keloid: Keloid core excision. *Ann Plast Surg.* 2001;46(2):135-40.
- [8] Rusciano L, Rossi G, Bono R. Use of cryotherapy in the treatment of keloids. *J Dermatol Surg Oncol.* 1993;19(6):529-34.
- [9] Bijlard E, Steltenpool S, Niessen FB. Intralesional 5-fluorouracil in keloid treatment: A systematic review. *Acta Derm Venereol.* 2015;95(7):778-82.

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