

CASE REPORT



# Giant relapsing earlobe keloid – Successful combined treatment by surgery and pressure earring

Alberto Goldman<sup>1</sup>, Uwe Wollina<sup>2</sup>

<sup>1</sup>Clinica Goldman, Porto Alegre, RS, Brazil, <sup>2</sup>Department of Dermatology and Allergology, Academic Teaching Hospital Dresden-Friedrichstadt, Friedrichstrasse, Dresden, Germany

## Correspondence

Uwe Wollina, Department of Dermatology and Allergology, Academic Teaching Hospital Dresden-Friedrichstadt, Friedrichstrasse 41, 01067 Dresden, Germany. Fax: +49-351-4801219. Phone: +49-351-4801685. Email: wollina-uw@khdf.de

Received: 10 April 2017;

Accepted: 18 May 2017

doi: 10.15713/ins.ijmdcr.63

## How to cite the article:

Goldman A, Wollina U. Giant relapsing earlobe keloid – Successful combined treatment by surgery and pressure earring. Int J Med Dent Case Rep 2017;4:1-3.

## Abstract

Keloids of the earlobe are frequent. The effective treatment remains a challenge. Intralesional injections, topical corticosteroids, cryotherapy, radiotherapy, laser therapy, and pressure dressings represent some treatment options. To demonstrate the effectiveness of positive pressure dressings after surgical excision to prevent recurrence of earlobe keloid. 2 weeks after surgical excision, the patient was instructed to wear pressure earrings. The dressing was worn for at least 12 h a day during 6 months. The patient was followed 3 years after the surgery. There was no recurrence of the earlobe keloid. Pressure earring was effective for prevention of relapsing keloid scar after surgical removal.

**Keywords:** Earlobe keloid, prevention, piercings, treatment

## Introduction

Keloids are defined as hyperplastic scars that exceed the boundary of the original trauma or as benign dermal tumors. Keloids may develop even after minor skin injuries, such as body piercing. The incidence of keloids has also a genetic background illustrated by the higher risk of keloids in populations of darker skin, such as Africans and Asians. Earlobes are one of the most common anatomical sites for acquired keloids.<sup>[1]</sup>

Pathologically, fibroblasts from keloids show peculiarities. They are metabolically hyperactive and show an increased migratory activity in cell culture. As a result, collagen 1 and collagen 3 expressions is higher than in normal skin. Insulin-like growth factor-I-inhibition results in decreased and normalized keloid-fibroblast activity *in vitro*.<sup>[1]</sup> In a recent microarray study on long non-coding RNAs, an increased expression of the following genes was found in keloid-fibroblasts: FNDC1, CILP2, THBS4, NPTX2, COLSA1, GRIN2D, and CTHRC1. Other genes were downregulated.<sup>[2]</sup> Further studies are needed to fully understand keloid etiopathogenesis.

Earlobe keloids have been classified five different subtypes according to their macromorphology: Single

nodular sessile, pedunculated, multinodular sessile, buried, and mixed type.<sup>[3]</sup>

## Case Report

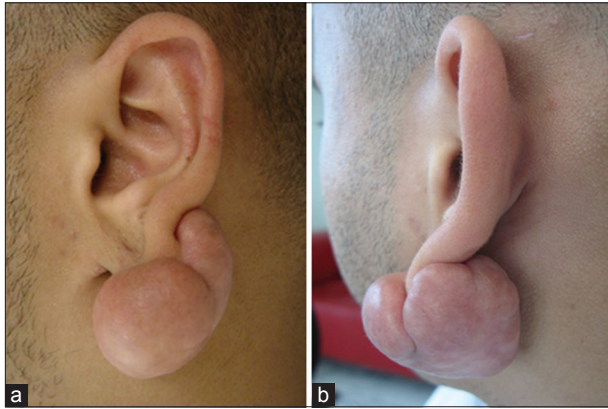
A 25-year-old male patient presented with a relapsing earlobe keloid. The primary injury was earlobe piercing. He already underwent several treatments such as intralesional injections of corticosteroids, and surgery 5 years ago but experienced a major relapse. He suffered from pain, discomfort, and itching.

On examination, we observed a giant pedunculated earlobe keloid on the left ear with a maximum diameter of about 5.5 cm [Figure 1].

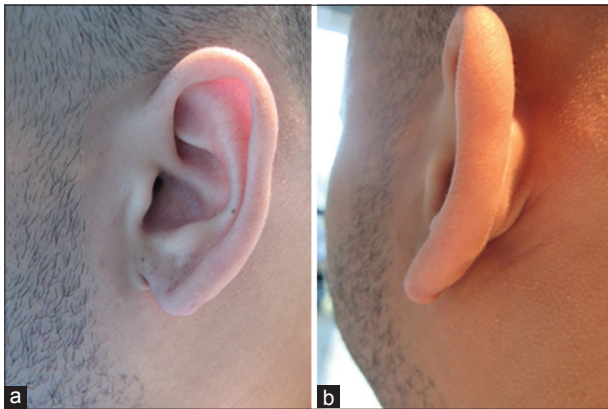
## Treatment

We performed complete surgical excision under local anesthesia. 1 week after the surgery the stitches were removed. A pressure earring made by the patient himself using some old earring of his mother was used thereafter. We reevaluated the patient 6 months later without a recurrence [Figure 2].

10 months later, he returned with some itching sensations which were treated successfully by topical corticosteroid ointment. The follow-up was 3 years without any relapse of



**Figure 1:** Clinical presentation of a giant pedunculated earlobe keloid (relapse) on the left ear. (a) Lateral view, (b) posterior-anterior view



**Figure 2:** Clinical result 6 months after surgery and pressure earrings without any relapse. (a) Lateral view, (b) posterior-anterior view



**Figure 3:** Outcome 2 years after surgery with esthetic result and no relapse

the keloid (Figure 3 represents the clinical effect 2 years after surgery).

## Discussion

Body piercing has become a popular method of body modification. Earlobe piercing is the most common and widely accepted type of body piercing. Complications in earlobes are significantly more common than in the helix and consist mainly of keloid formation and post-traumatic tearing.<sup>[4]</sup> In a study from Georgia/US, it was observed that keloids are more likely to develop when ears are pierced after age 11 than before age 11.<sup>[5]</sup>

The best way to deal with earlobe keloids is primary prevention. When a keloid had been developed surgical treatment alone has a high rate of relapse. Therefore, a complex treatment approach is preferred. Jung *et al.* combined surgery with repeated post-surgical triamcinolone injections and recorded a relapse rate of 16.6%.<sup>[6]</sup> Al Aradi *et al.* treated earlobe keloids by keloidectomy with core fillet flap and adjuvant intralesional steroid injection. They achieved an immediate relapse rate of 9.5%.<sup>[7]</sup> However, anaphylactic reactions have been observed due to triamcinolone injections.<sup>[8]</sup>

Adjuvant radiotherapy resulted in one study to a reduced recurrence rate of 4%.<sup>[9]</sup> Short-term adverse effects were not observed. However, since radiotherapy causes stochastic effects, there is no completely safe treatment in the long-term perspective, and the indication has to be considered critically.

Adjuvant pressure after surgical excision reduces the rate of relapses. In a study of Park and Chang, the recurrence rate dropped down from 17.5% to 5%.<sup>[10]</sup>

The treatment of relapsing or treatment-recalcitrant earlobe keloids is an even greater challenge. In the present case, a large pedunculated earlobe keloid was treated successfully by surgery followed by pressure earrings. There was no relapse of the keloid during follow-up of 3 years.

## References

1. Mari W, Alsabri SG, Tabal N, Younes S, Sherif A, Simman R. Novel insights on understanding of keloid scar: Article review. *J Am Coll Clin Wound Spec* 2016;7:1-7.
2. Guo L, Xu K, Yan H, Feng H, Chai L, Xu G. Expression profile of long noncoding RNAs in human earlobe keloids: A microarray analysis. *Biomed Res Int* 2016;2016:5893481.
3. Park TH, Seo SW, Kim JK, Chang CH. Earlobe keloids: Classification according to gross morphology determines proper surgical approach. *Dermatol Surg* 2012;38:406-12.
4. Holbrook J, Minocha J, Laumann A. Body piercing: Complications and prevention of health risks. *Am J Clin Dermatol* 2012;13:1-17.
5. Lane JE, Waller JL, Davis LS. Relationship between age of ear piercing and keloid formation. *Pediatrics* 2005;115:1312-4.
6. Jung JY, Roh MR, Kwon YS, Chung KY. Surgery and perioperative intralesional corticosteroid injection for treating earlobe keloids: A Korean experience. *Ann Dermatol* 2009;21:221-5.
7. Al Aradi IK, Alawadhi SA, Alkhawaja FA, Alaradi I. Earlobe

- keloids: A pilot study of the efficacy of keloidectomy with core fillet flap and adjuvant intralesional corticosteroids. *Dermatol Surg* 2013;39:1514-9.
8. Carvalhaes SM, Petroianu A, Ferreira MA, de Barros VM, Lopes RV. Assesment of the treatment of earlobe keloids with triamcinolone injections, surgical resection, and local pressure. *Rev Col Bras Cir* 2015;42:9-13.
  9. Ogawa R, Huang C, Akaishi S, Dohi T, Sugimoto A, Kuribayashi S, *et al.* Analysis of surgical treatments for earlobe keloids: Analysis of 174 lesions in 145 patients. *Plast Reconstr Surg* 2013;132:818e-25.
  10. Park TH, Chang CH. Early postoperative magnet application combined with hydrocolloid dressing for the treatment of earlobe keloids. *Aesthetic Plast Surg* 2013;37:439-44.

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