

Giant bilateral keloids of the ear lobule: Case report and brief review of literature

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ABSTRACT

Keloids are abnormal tissue response to cutaneous injury. They are benign fibrocollagenous growth that rise above the skin surface and extend beyond the borders of the original wound. They may also rarely regress spontaneously and show a high level of recurrence after treatment. They usually arise after cutaneous insult, but idiopathic spontaneous etiology is also reported. Their high recurrence creates nuisance not only for the patient but also for the doctors. Bilateral keloids of ear lobules are rare. We report one such case of giant keloids of bilateral ear lobules in a 42-year-old male patient. Keloids have known to be notorious for their poor response to treatment owing to complex and ill-deciphered pathophysiology. Recent studies indicate that transforming growth factor beta and platelet-derived growth factor play an integral role in the formation of keloids. In this article, we have reviewed the available literature to discuss the pathophysiology and treatment modalities that may be used to prevent the recurrence of keloids.

Keywords: General surgery, intralesional steroids, keloid

Introduction

Keloid is one of the most challenging clinical presentations of healed wound. Slavkin^[1] described keloid as “confused scar that does not know when to stop growing.” It was first described as “canroide” in 1806 by Jean Louis Alibert, as the growths had pathological features similar to that of cancer. Later, he changed the name to “cheloide” to avoid confusion with the word “cancer.”^[1] It can result from a variety of insults such as surgery, burn, cutaneous inflammation, infection, physical trauma, tattoos, vaccinations, injection, insect bite, ear piercing, or even spontaneously. It has a tendency to occur in areas of wound healing with increased tension such as chest, deltoid, and back. Keloids clinically present with the firm to hard nodule, often pruritic and painful, continuing to grow beyond 6 months of wound healing and rarely regressing spontaneously. Diagnosis is based on history and clinical examination and is confirmed by histopathology. Treatment modalities include but are not limited

to simple excision, intralesional excision, local irradiation, steroid therapy, pressure therapy, cryotherapy, silicone gel application and enzyme therapy, alone or in combination. No single modality is 100% effective, and recurrence rates range from 50% to 100%. Earlobe keloids show a high rate of recurrence (up to 80%) following surgical excision leaving deep psychosocial impact on the patient as well as an annoyance for the surgeon.

Case Report

A 42-year-old male presented to our Department of Surgery with bilateral swellings of ear lobule for 2 years and ulcer and pain over left swelling for 1 month [Figure 1]. He also complained of heaviness of ear lobules and restricted neck movement to the left, owing to the painful ulcer on the left swelling. There was a history of boils on both ear lobules. On examination, a giant swelling of size 15 cm × 8 cm of the left ear lobule and adjacent area and a small swelling of size 5 cm × 3 cm hanging out from the right ear lobule were noted. Both the swellings were firm in consistency with the irregular bosselated surface,

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well-defined margins, mobile and not fixed to overlying skin or underlying anatomy.

The clinical diagnosis of keloid was confirmed by fine needle aspiration cytology which showed collagenous fibroma. In consultation with the patient and his family, surgery was planned. Preoperatively, three cycles of perilesional triamcinolone were injected at intervals of 3 weeks. Total excision was done [Figures 2 and 3], and tissue was sent for histopathological examination which showed haphazardly arranged broad, homogeneous highly eosinophilic collagen bundles outlined by large pale staining fibroblasts, confirming the diagnosis [Figure 4]. Silicone gel pad and elastic stockings were advised postoperatively. Three doses of perilesional triamcinolone were injected 1 month after the operation and at 3 weeks intervals each. Wound area was healthy and no recurrence was seen within 11 months of follow-up.

Discussion

Keloids are 5–15 times more common in dark-skinned populations,^[2] hinting toward the role of melanocytes in its

pathogenesis. Families with an autosomal dominant inheritance pattern of keloids show susceptibility loci on chromosomes 2q23 and 7p11.^[3] Overexpression of antiapoptotic gene and proto-oncogenes like bcl-2, c-jun and c-fos and mutation in p53 gene are found in keloid fibroblasts as compared to normal, which promotes cell proliferation and inhibit apoptosis.^[4] In a study, it is reported that cyclooxygenase (COX 2) enzyme gene expression is absent in fibrotic scar and may contribute to keloid formation.^[5]

Transforming growth factor-β 1 (TGF-β1) is well-known for profibrotic function and excessive fibrosis and scar formation. TGF-β2 modulates expression of matrix metalloproteinase 1 and 2, increased expression of which explains local invasiveness of tumor.^[6] An abnormal reduction in integrin α1β1 expression may result in loss of the negative feedback which could explain the increased abnormal collagen synthesis and arrangement of collagen fibers in keloids. Increased expression of both antibody and cell-mediated immunity has been found in patients with keloid as compared to others.



Figure 1: Photograph of patient showing bilateral ear lobule keloids



Figure 2: Postoperative photograph showing total excision



Figure 3: Intraoperative photograph showing excised mass

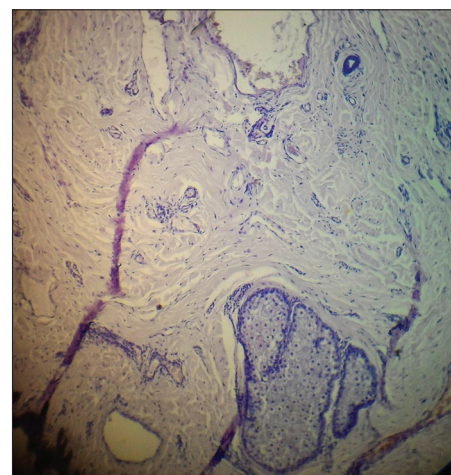


Figure 4: Histopathology of specimen showing haphazardly arranged broad, homogeneous highly eosinophilic collagen bundles outlined by large pale staining fibroblasts

Despite the continued research there is no single universal management protocol which may be used for the treatment of keloid. Various modalities have been tried in combination. Surgery alone shows high recurrence (45%–100%) and intralesional steroid has not shown satisfactory results in case of large lesions. Surgery followed by radiotherapy has also shown good outcome for giant ear lobule keloid.

Intralesional cryotherapy in combination with steroids, surgery or CO₂ laser surgery can give satisfactory results in the treatment of keloid, but outcomes depend on size, site, and consistency of lesions. Intralesional antitumor agent may also be recommended to prevent recurrence, but limited evidence suggesting its efficiency is available.^[7] Silicone gel dressing with pressure garments is acceptable to prevent recurrence without significant side effects.

Conclusion

Our reported case is one of the largest ear lobule keloids reported till date. The lesion was managed well with pre- and post-operative perilesional steroid injections along with excision of tumor. There has been no recurrence over the 11 months follow-up till now. Pre- and post-operative perilesional steroid injections along with silicone gel dressing and pressure garments may serve an important role in preventing recurrence of keloids. Further research and multicenter trials should be undertaken to see the usefulness of combining pre- and post-operative perilesional injections in large keloids.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other

clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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