

Use of Pressure Ear Tops to avoid Recurrence of ear keloids after surgery

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ABSTRACT

Aim: To determine the efficacy of pressure ear tops in the treatment plan of ear keloids the postsurgical adjuvant.

Study Design: Prospective Study

Place and duration:: Department of Plastic Surgery, Bashir Hospital, Sialkot from June 2016 to January 2020.

Methodology: Patients with ear keloids were admitted. Informed consent, both for the purpose of research and surgery was taken. Ear keloids were treated with excision followed by the use of pressure ear tops after one week of operation for 6 months. Patients were discharged on the same day. They were followed up at first week postoperatively for stitch removal. Then after 3 months and 6 months respectively. At follow up visits, recurrence of keloids was assessed. A proforma was maintained to record the data. Patients with history of previous surgery were excluded from the study similarly patients not completing follow up were dropped from the data. The data was entered and analyzed using SPSS v 22.

Results: The ear keloid usually develops after piercing injury to wear ornaments. A patient usually asks for removal of keloid, as it is aesthetically unpleasant. Patient may sometimes complain of itching and pain. The total number of patients included in study was 78 out of which mean age of most of people 32 years, 39 of which had control by pressure tops and 39 had surgery alone. The patient presentation of cosmetic concern, disfigurement and Pain ,Itching and Recurrent infection. Poor cosmetic results occur in 7.69% by pressure tops and 15.38% by surgery alone. Recurrence occurs in 0% by pressure tops and 10.25% surgery alone. 0% infection had reported in both cases.

Conclusion: The results of this study revealed that use of pressure ear tops in the post excision phase of ear keloids is an effective approach to avoid recurrence.

Keywords: Ear keloid. Pressure ear tops. Auricular keloid, needle injury

INTRODUCTION

Ear piercing is common phenomena among general public. It involves high up piercing in upper one third of cartilage of pinna. Keloid formation is a known complication of piercing. Patients usually presents to plastic surgeon due to cosmetic complaint. An interesting observation is that patients have high rate of keloid in cartilaginous area whereas commonest sites are ear lobule, chest, back and shoulder, which are spared in these cases^{1,2}.

Keloid formation is a clinical entity characterized by formation of severe keloid in response to minor trauma like scratching acne injection etc. the important risk factor of keloid disease is genetic and ethnicity. The typical sites are ear lobules, back, shoulder, and chest. Healing by secondary intention is an important risk factor for keloid formation. Thus, wound is subjected to repeated inflammation due to repeated trauma, infection or foreign body leads to keloid formation^{3,4}.

Cartilage has no blood supply and is a tight structure as compared to ear lobules. Piercing gun with blunt studs is commonly used by quack for cartilage piercing. Jewelry gets fits too tightly and become difficult to rotate the jewelry

to stretch the piercing hole. There is more risk of infection with high piercing owing to spare blood supply. Moreover, instruments are not properly sterilized results in perichondritis, which is difficult to treat. Normal healing time of piercing is 2 months to 1 year, whereas that's of ear lobules is 4-6 weeks. the other factor of delayed healing is metal sensitivity and wearing tight fitting jewelry, age is also important risk factor in healing patients with age of 10-30 year develop keloid more frequently^{5,6,7}.

A primary ear keloid is a keloid that has not been previously treated with surgery. These abnormalities of wound healing may develop on the body at any site, but the location is basically dictated by the area of prior injury like piercing of ears. These keloids when primary grow with time but are small to start with. So, its growth is directly proportionate to duration; more the duration larger the size of keloids. The term Secondary Keloids is designated to a newly formed keloid at the site of surgery done for excising some primary keloid^{8,9,10}.

Much of clinical and scientific research in this field of keloid scarring is flawed because investigator have failed to define their research materials mild keloid or severe/massive keloid and all fibro- proliferative disorders of skin that grow beyond the boundaries of original wound or have unrecognized origin are falsely classified as scar¹¹.

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The objective of this study was to determine the results of ear plugs for reducing the risk of ear keloid formation. No study in this aspect has been conducted in our set up so we collected the data of our patients and analyzed.

PATIENTS AND METHODOLOGY

Patients with ear keloids who reported to the plastic surgery OPD for varied complaints and for cosmetic concerns were admitted. Informed consent, both for the purpose of surgery and collection of data to be presented in research papers was taken. Ear keloids were treated with excision followed by the use of pressure ear tops after one week of operation for 6 months. Patients were discharged on the same day. They were followed up at first week postoperatively for stitch removal. Then after 3 months, 6 months and 1 year respectively. At follow up visits, recurrence of keloids was assessed. The final decision of recurrence was made after one years' follow up. The patients with small keloids were included in the study. Exclusion criteria was massive ear keloids, secondary keloids, not giving consent, not opting for surgery, Ear keloids measuring less than 0.5cm or more than 5cm in maximum dimension were excluded from the study. Similarly Patients with history of previous surgery were excluded from the study similarly patients not completing follow up were dropped from the data. The data was entered and analyzed using SPSS v 22. Non-piercing causes such as burns, trauma, and recurrent keloid were excluded and those who did not complete one year follow up. A proforma was maintained to record the data. Data analyzed using SPSS v 22.

RESULTS

The ear keloid usually develops after piercing injury to wear ornaments. A patient usually asks for removal of keloid, as it is aesthetically unpleasant. Patient may sometimes complain of itching and pain. The total number of patients included in study was 78 out of which mean age of most of people 32 years, 39 of which had control by pressure tops and 39 had surgery alone.

Table I: General data of study (Ear-keloids)

Total patients	78	
Age	19- 47 years	Mean 32(+11 years)
Group I	Surgery and pressure tops	39
Group II	Surgery alone (control)	39

Table- II- Presentations

	Surgery and pressure tops	Surgery alone (control)
	Group I 39 (100%)	Group II- 39 (100%)
Cosmetic concern	25(64.10%)	27(69.23%)
Disfigurement	4(10.25%)	5(12.84%)
Pain	12(30.76%)	9(23.07%)
Itching	9(23.07%)	7(17.97%)
Recurrent infection	6(15.58%)	3(7.68%)

Table II shows the presenting symptoms and indication for surgical intervention

Poor cosmetic results occur in 7.69% by pressure tops and 15.38% by surgery alone. Recurrence occurs in 0% by pressure tops and 10.25% surgery alone. 0% infection had reported in both cases.

Table II: Outcome of treatment

	Surgery and pressure tops	Surgery alone (control)
	Group I- 39 (100%)	Group II39(100%)
Poor cosmetic result	3(7.69%)	6(15.38%)
Recurrence	0(0%)	4(10.25%)
Infection	0(0%)	0(0%)

DISCUSSION

The cosmetic complication reported in our study was 75% whereas study by van Leeuwen MC et al¹², was 56%. The disfigurement reported in our study was 7.4% whereas Zouboulis CC et al¹³, study show 13.9% of cases having complication of disfigurement. 28.57% of patient experienced pain in our study whereas Leeuwen MC et al¹², study show that 39% patient experienced pain. Itching caused after having pressure tops was 21.78% in our study whereas study by Barara M et al¹⁴, shows the result to be 17.54%.Recurrent infection occurred in our patients was 7.24% whereas the study by Rusciani L et al¹⁵ was 2.65%.poor cosmetic control reported in our study was 7.14% and study by Rusciani L et al¹⁵, was 5.78%

CONCLUSION

The pressure ear tops as postsurgical adjuvant therapy has been effective in avoiding recurrence after surgery for small ear keloids.

Conflict of interests: Nothing to disclose

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