External Ear Injury and Repair

Traumatic clefts from pulled jewelry in pierced earlobes are a common defect. Primary care PAs often fear that surgical repair of the earlobe is to be strictly avoided because of the likelihood of complications from infection, hematoma formation or scar retraction. The fibrocartilage and fatty tissue nature of the auricle and ear lobe, combined with the relatively poor blood supply to the structures, is thought to predispose to these complications. While this is true in some respects, there are injuries to the earlobe that PAs can properly manage if they follow a few guidelines.

Most complete clefts are unilateral and most often are caused by traumatic pulling of the earring, whereas incomplete clefts are bilateral and most often are caused by the wearing of heavy earrings that over time stretch the pierced hole and become cosmetically unattractive. When considering repair for cosmetic purposes, a number of authors have described various techniques for the repair. These techniques are based on the degree of trauma and the needs of the patient, both for cosmetic reasons and whether the patient prefers to have their ears repierced (Figures 1 and 2).

The techniques described for the repair of the cleft earlobe are simple closure, V-flaps, Z-plasty, and L-plasty that may include immediate or delayed placement of the earring canal (Figures 3 and 4). These techniques provide closure that is aesthetically pleasing and, in most cases, allow the earring hole to be maintained or the lobe to be repierced.

A satisfactory repair should produce a lobe that is symmetric with the other side. In the event that the lobe is smaller because of volume lost to the cleft, symmetry of the lobes is the important feature affecting the appearance. Most patients should be able to resume the wearing of earrings, depending on the limitations set forth by the repair.

One of the primary problems encountered in earlobe reconstruction is that of scar contracture. This usually results in the complication of lobe notching. Utilizing the L-plasty breaks the vertical component of scar contracture, resulting in a smooth lobular border. This technique is preferred for smaller incomplete defects. This procedure can be performed in the outpatient setting with local anesthesia (lidocaine without epinephrine) (Figure 3).

Multiple articles document the technical aspects of traumatic earlobe defects, but most do not give an objective analysis of causation or management. Although recommendations regarding methods of repair, preservation of the site of piercing, and how long to refrain from wearing earrings after repair are plentiful, data supporting long-term follow-up of these procedures are lacking.

The largest study by Reiter and Alford found that management should be based on the thickness and character of the lobe. Complete clefts in lobes between 4 mm and 6 mm in thickness should be repaired with a two-layer closure if the lobe is soft and fatty but a full-thickness Z-plasty if the lobe is firm or fibrous. Lobes thicker than 6 mm should be repaired with a full-thickness Z-plasty. In general, repiercing is not advisable for lobes less than 4 mm thick; nevertheless, if performed, a waiting period of three months after the initial repair should be followed.

Lobes less than 4 mm in greatest thickness are more likely to develop elongation of the piercing site or complete clefting. These risks are less likely in lobes greater than 4 mm in thickness. Patients with earlobes greater than 4 mm in thickness who wish to repierce an injured earlobe should wait six weeks after the initial repair. Additionally, they should avoid wearing heavy earrings for a similar period.

Following repair of the lacerated earlobe, non-adherent gauze and a pressure dressing need to be applied. The wound should be kept dry and rechecked in one or two days. Sutures should be removed in five days.

References

Figure 1: A patient with an intentionally stretched earlobe.

Figure 2: A patient with incomplete cleft, wearing heavy earring.

Figure 3: An L-shaped flap is created surgically around the cleft, and then the wound is sewn using a primary closure.

Figure 4a: Refresh the wound with sharp dissection; then, at the site of the earring hole, elevation of two parallel flaps is accomplished.

4b: Discard one flap and use the second to create the earring hole.

4c: Two opposing Z-plasties are then carried out using half the thickness of the ear lobes.

4d: Completed operation.