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Auricle injury due to human bite—A rare case report and review literature



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ABSTRACT

INTRODUCTION: Traumatic auricular amputation due to human bite is not a common event. Bite wounds are always considered to be complex injuries contaminated with unique poly-microbial inoculum. Human bites are as serious as animal bites because they induce a higher incidence of infectious complications. In bite wounds to the face, infectious complications can create more difficulties than the initial tissue damage itself for the task of restoring an aesthetic appearance.

PRESENTATION OF CASE: In this case report a young male patient had ear lobule injury on interpersonal violence and amputation of ear lobule results. Due to delay in presentation and high chances of infection wound healing by secondary intention achieved.

DISCUSSION: Microsurgery can be performed in some cases, but most microsurgical techniques are complex and their use can only be advocated in specialized centers.

CONCLUSION: Oversight may result in a potentially devastating complication involving function, infection or cosmesis.

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1. Introduction

The traumatic loss of an ear constitutes a great aesthetic deformity and considerably affects the patient's psychology. In addition, the severed ear constitutes a major challenge for the head and neck or plastic surgeon particularly when a human bite is the cause, taking into account the high possibility of severe contamination by the bacteria of oral flora. The difficulty of reconstitution is mainly related to the unique anatomical structure of the auricle, with fine skin covering, a thin and elastic cartilage, and small size vessels responsible for its perfusion.^{1,2} Many microsurgical techniques have been reported for reattachment of the auricle, but their significant complexity and numerous limitations do not allow for wide practice.³ On the other hand, simple reattachment of the amputated part as a composite graft is doomed to fail with almost certainty.^{1,4}

2. Case report

A young 35 year age male patient presented to casualty department with injury to ear lobule by interpersonal violence about 6 h ago. Complete amputation of ear lobule occurs due to human bite. Patient brought the amputated part with him. He had complained of pain and bleeding from injury site. After initial assessment, we found that the amputated part is no longer viable. Wound irri-

gated with normal saline and povidine iodine solution. Hemostasis achieved and then dressing done. Wound left for healing with granulation by secondary healing. Tetanus toxoid given as the patient has not received immunization against tetanus in last 5 years. Oral antibiotics started for prophylaxis against human mouth flora.

3. Review literature and discussion

We performed a MEDLINE database search using the PubMed search engine with the medical subject heading (MeSH) words such as "human bite injury" "ear lobule injury" for original articles; case reports and reviews of full text article written in English were taken into account (Fig. 1).

Although total or partial traumatic amputation of the ear is a rare occurrence, many treatment modalities have been used up to date.^{1,4,5} However, none of them appears to have solved the problem in a definite manner.^{1,4} Successful microsurgical revascularization of amputated auricles has been performed using three different techniques: vein grafts, primary vascular repair, and repair by means of pedicle superficial vessels.^{2,3} The simple reattachment of the ear as a compound graft usually leads to necrosis and total loss of the organ.^{1,4} In 1971, Mladick et al. proposed the principle of the retro-auricular pocket, for non microsurgical ear reattachment. This method involved deepithelization of the amputated part, followed by anatomic reattachment to the amputated stump and then burial in a retro-auricular pocket.⁶ In 1972, Baudet et al., reported a case of successful ear replantation using a novel technique. Reattachment was accomplished

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Fig. 1. Injured ear lobule showing continue oozing of blood from row area.



Fig. 2. Amputated part of the ear lobule had no signs of vascularity.

by excising the posterior skin of the amputated part and making large fenestrations in the cartilage to allow better contact of the anterior skin to the underlying vascular bed. In addition, a post-auricular flap was elevated. The anterior skin was then sutured to the amputated stump of the ear and to the post-auricular flap. In this way, a larger area of inset and greater surface of contact with the vascular bed was provided for the graft, thus allowing for better composite graft survival.⁷ Park et al. described another technique for amputated auricular cartilage burial, by removing all skin from the graft except over the helix area. The denuded cartilage is then sandwiched between retro-auricular flaps anteriorly and a facial flap posteriorly. However, the unburied helical skin can undergo necrosis, while three stages are required to achieve a satisfactory result.^{1,8} Mello-Filho et al., have described the implantation of the amputated ear cartilage into the platysma muscle, which is later transferred to its original site in the form of myocutaneous–cartilaginous flap.⁴ Human bite injuries carry the risk of being infected with the bacteria flora of the oral cavity and these infections are poly microbial in nature. This often leads surgeons to consider initial debridement and delayed closure because of the fear of wound infections.^{9,10} Prophylactic broad spectrum antibiotic treatment and primary closure of bite wound remain areas of controversy. Nevertheless, delayed closure should only be reserved for certain high risk or already infected wounds.^{11,12}

Microsurgery can be performed in some cases (Fig. 2), but most microsurgical techniques are complex and their use can only be advocated in specialized centers. In this case due to chances of infection and limited facility (lack of plastic surgery department) we choose secondary healing as preferred method.

4. Conclusion

Bite wounds present a challenge to any emergency department given the many issues involved in their management. Oversight of any of these issues may result in a potentially devastating complication involving function, infection, or cosmesis. Current opinion advocates thorough washout, debridement, and primary repair of

bite injuries. Antibiotic cover is recommended given the risk of infection.

Conflicts of interest

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References

1. Pribaz JJ, Crespo LD, Orgillm DP, Pousti TJ, Bartlett RA. Ear replantation without microsurgery. *Plast Reconstr Surg* 1997;**99**(7):1868–72.
2. Nath RK, Kraemer BA, Azizzadeh A. Complete ear remplantation without venous anastomosis. *Microsurgery* 1998;**18**:282–5.
3. Kind GM, Buncke GM, Placik OJ, Jansen DA, D'Amore T, Bunche HJ. JR: total ear replantation. *Plast Reconstr Surg* 1997;**99**(7):1858–67.
4. Mello-Filho FV, Mamede RCM, Koury AP. Use of a platysma myocutaneous flap for the reimplantation of a severed ear: experience with five cases. *Sao Paulo Med J* 1999;**117**(5):218–23.
5. Maral T, Borman H. Reconstruction of the upper portion of the ear by using an ascending helix free flap from the opposite ear. *Plast Reconstr Surg* 2000;**105**(5):1754–7.

6. Mladick RA, Horton CE, Adamson JE, Cohen BI. The pocket principle? A new technique for the reattachment of a severed ear part. *Plast Reconstr Surg* 1971;**2**(48):9–23.
7. Baudet J, Tramond P, Goumain A. A propos d'un procede original de reimplantation pavillon de reille totalement separe [A new technic for the reimplantation of a completely severed auricle]. *Ann Chir Plast* 1972;**17**:67–72.
9. Olaitan PB, Uduezue AO, Ugwueze GC, Ogbonnaya IS, Achebe UJ. Management of human bites of the face in Enugu, Nigeria. *Afr Health Sci* 2007;**7**:50–4.
10. Merriam CV, Fernandez HT, Citron DM, Tyrrell KL, Warren YA, Goldstein EJ. Bacteriology of human bite wound infections. *Anaerobe* 2003;**9**:83–6.
11. Stefanopoulos PK, Tarantzopoulou AD. Facial bite wounds: management update. *Int J Oral Maxillofac Surg* 2005;**34**:464–72.
12. Stefanopoulos PK, Tarantzopoulou AD. Management of facial bite wounds. *Dent Clin North Am* 2009;**53**:691–705.

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