

MANAGING HUMAN BITE: REPORT OF A CASE

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ABSTRACT

Human bites are frequently overlooked in making a diagnosis in the emergency room. They are particularly notorious due to the polymicrobial nature of human saliva inoculated in the wound and the risk they pose for transmission of infectious diseases, the esthetical defect and the disfigurement of face and social and psychological effects. Early treatment, appropriate prophylaxis and surgical evaluation are the key to achieving desired treatment outcomes. Through this case report, we have tried to summarize the surgical treatment alternatives and outcome for human bite.

KEYWORDS: Human bite; management

INTRODUCTION

Human bites of the face present to the surgeon sometimes with a dilemma as to the method and timing of surgery. Bites on the face also present as a surgical challenge.^[1] Often patients present with soft tissue defects as a result of the injury sustained. Reconstruction therefore becomes absolutely necessary to avoid psychosocial complications. Human bite injuries carry the risk of being infected with the bacteria flora of the oral cavity. Treatment Opinions tilt towards the fact that Primary surgical repair is the treatment of choice for most clinically uninfected facial bite wounds, whereas delayed closure should be reserved for certain high risk or already infected wounds.^[2-4] More so when there is partial or total loss of important structure(s) of the face. Avulsive injuries with significant tissue loss represent the most difficult cases for definitive management. The cosmetic effects of such losses are profound and may affect the social and even sometimes economic live of the individual patient involved. Many of the patients who sustain human bite of the face present with healed wound but with disfiguring scars and deformed facial

appendages also needing reconstruction. Human bites can be classified depending on the mechanism of injury into occlusion bites and the closed fist bite (or fight bite). Occlusion bites occur when the teeth are sunk into the skin with sufficient force to breach the integrity of the skin. Clenched fist injuries occur when a closed fist impacts another individual's teeth, leaving an injury over the dorsal aspect of the third, fourth or fifth metacarpophalangeal (MCP) joints, most classically over the third MCP. These are known to be among the worst human bites because although on initial examination they usually reveal a small, seemingly innocuous puncture that may be easily missed on examination, the penetration often injures the soft tissue, extensor tendon and sheath and may disrupt the MCP joint.^[5-8]

CASE REPORT

A 20 year old male presented to emergency department of Indus hospital with a 9 day history of human bite post inter personal violence. He was systematically fine and had no other complaints. He just wanted to have the wound filled without scar and a patchy skin without hair. He had already visited 3 other hospitals hence the delay in treatment. The human bite was semicircular or D shape with 3 cm diameter with loss of skin, superficial fascia, deep fascia and fat. It was non infected with rolled margins. Plan of treatment was to give a local flap with minimum or no area of secondary healing; and similar direction of hair growth as that of the adjoining tissue. Keeping the rhomboid flap diagram in mind...we marked the dimensions with help of an iodine marker. Measured the wound and made sure the flap was of same dimensions.we marked 2 flaps one was advancement and other was transpositional rhomboid. The advancement flap was less aesthetically favorable with substantial area of secondary healing. Primary and secondary scrubbing was done thoroughly. Rhomboidal flap



Fig. 1



Fig. 2



Fig. 3

was drawn with aid of iodine marker. The margin of the defect was refreshed giving it a rhomboid shape. Care was taken to preserve the hair follicles of the flap, two tag sutures were taken and flap was transpositioned to the defect. The flap was covering the defect without much stretching. Undermining of neighbouring tissue was done and flap was sutured on the defect. Secondary defect was also sutured. Tissue from 3mm base of the mandible was sutured into the chin. Both vertical and horizontal L shape was done to close the secondary defect. No defect was left for secondary healing. 5-0 silk and 3-0 vicryl was used. Post op was no complication were present and intra venous antibiotics were given 7 days post op. Sutures were removed 15 days post op.

DISCUSSION

Human bites are serious injuries that may result in infection, loss of function and gross disfigurement. Infection from oral contaminants, tissue damage, and difficult surgical reconstruction make the management of human bite injuries a challenge. The goals of reconstructive surgery include achieving wound closure, restoring anatomic landmarks and minimizing surgical revisions as well as psychological trauma. Accurate assessment of tissue loss and due consideration of reconstructive options are crucial to a successful outcome. The head and neck region is perhaps only second to

the hand as a target in acts of deliberate human bites.^[5-8] The aim of this article is to discuss our experience in management of a case of human bite with loss of approximately 3cm diameter tissue. Primary suturing, local flaps or grafts are the various methods available for surgical repair.^[9,10] For wounds that are not infected, treatment included thorough surgical toilet, suturing, antitetanus and broad spectrum antibiotics. Ampicillin/amoxicillin were used in combination with metronidazole and in some cases either ciproflaxin or augmentin were used. Surgical cleansing involved debridement to remove all debris and non-vital tissue and thorough irrigation with 3% hydrogen peroxide followed by sterile normal saline. Reconstruction of soft tissue defect is often cited as a challenge in modern maxillofacial surgery. The goal in this case was restoration of both form and esthetics which involves duplication of chin prominence, direction of hair growth and minimal scar. Use of a flap is important in facilitating physical & psychological function and esthetics. The term FLAP originated in 16th century from dutch word flappe meaning something that hung broad and loose fastened only by one side. The flaps can be broadly classified as local random pattern and local axial pattern flaps; (both of these flaps can be classified as sliding or lifting types), Distant axial flap, myocutaneous and free flaps. Flaps that are moved from the area close to the defect are called local flaps. Movement of local tissue happens in two ways. The tissue may be marched or advanced in a forward direction using advancement techniques or moved laterally using the pivot principle when there is movement round a pivot point. In head and neck there is extensive subdermal vascular plexus, the principle of a local flap works because skin is elastic and stretches, and it is possible to take tissue and move it form areas where it is redundant into a area where it is

needed. A classic transposition flap is the rhomboid. The excision is designed as a rhomboid and the flap is designed so as to be transposed into the defect. Swastika flap to close large defects. We used a rhomboid flap. This flap was quite useful in transfer of hair bearing area and the direction of hair was same that of tissue that was lost due to human bite and can be used as an onlay flap after de-epithelialization of facial skin.

CONCLUSION

Most of the human bite injuries in the oro-facial region were due to social conflicts in the community. Although generally considered to be dirty or contaminated, human bite injuries could be successfully treated by thorough surgical cleansing and primary suture with a favourable outcome. Human bite injuries in the oro-facial region often need multidisciplinary approach in their management. We recommend that all human bites without obvious signs of infection should be closed with proper planning depending on the loss of tissue, site of tissue loss and various local flaps that can be taken with minimal or no site for secondary healing. Proper planning and local flap can reduce the chance for second surgery or for revision of scar. Public education on complications that might arise from human bite injuries would minimize their incidence and encourage the victims to report early for treatment.

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BIBLIOGRAPHY

1. Datubo-Brown D. Human bites of the face with tissue losses. *Ann Plast Surg.* 1988;21:322-328.
2. Iregbulem LM. Human bite losses of the lower lip. *Plast Reconstr Surg.* 1979;64:811-814.
3. Futrell JW, Johns ME, Edgerton MT, Cantrell RW, Fitz-Hugh GS. Platysma myocutaneous flap for ontraoral reconstruction. *Am J Surg.* 1978;136:504.
4. Posnick JC, McCraw JB. Useful arterialized flaps for head and neck reconstruction. *Ann Plast Surg.* 1987;19:359.
5. Merchant RC, Zabbo CP, Mayer KH, Becker BM. Factors associated with delay to emergency department presentation, antibiotic usage and admission for human bite injuries. *Can J Emerg Med.* 2007;9:441-8.
6. Henry FP, Purcell EM, Eadie PA. The human bite injury: A clinical audit and discussion regarding the management of this alcohol fuelled phenomenon. *Emerg Med J.* 2007;24:455-8.
7. Griego RD, Rosen T, Orengo IF, Wolf JE. Dog, cat, and human bites: A review. *J Am Acad Dermatol.* 1995;33:1019-29.
8. Chen E, Horing S, Shepard SM, Hollander JE. Primary closure of mammalian bites. *Acad Emerg Med.* 2000;7:157-61.
9. Sachdeva SD, Misurya R, Bagdi A. Hemifacial Atrophy - A case report. *JDMIMS.* 2006;2:99-102.
10. Dujon DG, Bowditch M. The thin tube pedicle: a valuable technique in auricular reconstruction after trauma. *Br J Plast Surg.* 1995;48:35-38.