Oro-Facial Human Bites in a Tertiary Teaching Hospital in Northern Nigeria

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ABSTRACT

Objective: Human bite to the face with associated tissue loses is an uncommon injury. Human bite wounds could become infected, if treatment is delayed. The objective of this study is to review the clinical presentation and management of all human bites to the oro-facial area.

Methods: The study was a retrospective review of case files of cases of human bites in our centre seen from January, 2009 to December, 2017.

Results: The unmarried males dominated both the victims and the assailants. The causes of bites were: Fighting over sexual partners (n=20, 74.1%), and fighting among wives in polygamous home (n=5, 18.5%), domestic violence (n=2, 7.4%). Twenty-seven cases were identified with male to female ratio of 1.25: 1.00; fighting over sexual partners was the commonest cause of bites (n=20, 74.1%) with the lower lip being the most affected (n=12, 44.4%). Meticulous wound care, prophylactic antibiotics and surgical reconstruction were the modalities of treatment

Conclusion: Human bites are potentially dangerous wounds and constitute a significant cause of morbidity. All doctors should be well acquainted with the evaluation and proper management of human bites to avoid complication. Early wound treatment, antibiotics prophylaxis and surgical evaluation are necessary to achieving desired treatment outcomes.

Keywords: Human bite, oro-facial, sexual partner, lower lip, tissue loss

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INTRODUCTION

Human bites can lead to significant morbidity from direct trauma and subsequent infection.[1] Human bites can be either accidental or intentional and can occur as two separate entities: clenched fist injuries and occlusive bites.[2] Clenched fist occur when a closed fist impacts another individual's teeth leaving an injury over the dorsal aspect of the 3rd and to 5th metacarpophalangeal joint.[2] Clenched fist injuries are the most common and have greater clinical significance.[2] Occlusive bites occur when the teeth are sunk into the skin with sufficient force to break the integrity of the skin.[3] Human bites to the oro-facial region are occlusive bites and can results in avulsion, laceration and crushing of the tissues.[3] It can also result into polymicrobial inoculums in the region of the bite and anaerobes are also equally represented.[4] Human saliva is known to contain as many as 50 species of bacterial with almost 108 microbes.[4] This is one of the reasons why human bites are believed to have higher rates of infection than other injuries. Although death is now most unlikely from oro-facial human bite injury, the injury may cause severe cosmetic disfigurement that requires reconstruction.[6]

Surgical reconstruction of loss tissue is the treatment of choice for human bites with tissue losses. The excellent blood supply of the face and the use of prophylactic antibiotics make a good surgical outcome.[6] The goals of therapy are to minimize

possible soft tissue deformity and to prevent or give appropriate treatment for infections. This paper describes and analyzes the clinical presentations and treatment modalities of the cases reviewed.

MATERIALS AND METHODS

A retrospective study of the case notes of patients who suffered human bites with tissue losses at the Barau Dikko Teaching Hospital, Kaduna from January 2009 to December 2017 was done. The sample frame was thirty patients. The sample size was twenty-seven patients. Three patients who declined surgery were excluded from the study. Records of patients were obtained from clinic attendance register, operation register, and accidents and emergency records. The case folders of the patients were retrieved and analyzed for age, sex, site, occupation, marital status and circumstances of injury and presentation, surgical management and patient disposition were also analyzed. Data were sorted, organized and entered into SPPS version 20 (IBM^{o} SPSS^{Q} statistics Armonk New York, United States) for analysis. Frequency statistics and cross tabulations were done and chi-squared test was used to test for significance between variables at the critical $p<0.05$.

Ethical approval was obtained from the ethical committee of the hospital.

RESULTS

The male to female ratio is 1.25:1.00, with males in the age group 21-30 constituting the majority (n= 20, 40%). The oldest patient in this series was a 48 years old woman who was bitten by a neighbour's daughter fighting on behalf of her mother (Table:1). while one male patient was bitten by his newly married wife on the tongue.

The middle third of the lower lip is by far the most commonly bitten, (n=12, 48.0%) followed by bites to the ala of the nose (n=5, 35.0%), fighting over sexual partners are the commonest cause of bite which accounted for (n=20, 74.1%) of the cases, fighting among wives in a polygamous home accounted (n=5, 18.5%), and domestic violence accounted for (n=2, 7.4%). All the patients were of poor socio-economic status.

Table 1: Age and sex distribution of patients.

Age groups	Male	Female
10	0	0
11-20	0	1
21-30	12	8
31-40	3	2
41-50	0	1
Total	15	12

Table 2: Causes of Injury

Causes	No of patients	Percentage
Fighting over sexual partners	20	74.1
Fighting among wives	5	18.5
In a polygamous homes		
Domestic violence	2	7.4
Total	27	100

Eleven of the patients (40.7%) presented within 24hours of injury, sixteen (59.3%) presented after 24hours (Table 4). Loss of tissue from the lower lip constituted the entire bulk of patients that presented within 24hours of injury (Table 5). At presentation our management included copious irrigation with normal saline and water, tetanus prophylaxis, broad spectrum antibiotics which include intravenous ceftriazone 1gramme 12hourly for 5days, intravenous metronidazole 500mg 8hrly for 5days and analgesics majorly diclofenac sodium both intramuscular 75mg for 3days then oral 50mg 12hrly for 3days

Table 3: Anatomical sites involved in bites

Site	Description	Total number
Lower lip	Middle 3rd	9
	Lateral 3rd	3
Upper lip	Middle 3rd	2
Nose	Ala	5
	Tip	2
Ear	Lobe	3
	Helix	2
Tongue	Anterior one third	1

One of patients had wound break down due to infection and was treated with daily eusol wound dressing and capsule clindamycin 300mg 12hourly for 5days. The wound healed by secondary intention and with prominent scarring. Simple V shaped excision and primary closure sufficed as our reconstructive tool in a majority of the patients who sustained lip injuries at the middle third. Abbe islander flap was used in two cases of lip injuries involving the distal and mesial third (figure 3). Patient in (figure 1) had both procedures done for him to achieve maximal closure. Superiorly based naso-labial flaps were used for nasal tissue loss, while retro-auricular flap was used for ear lobe and helix losses. The tongue was debrided and it healed uneventfully with loss of a small segment of the tongue. The overall outcomes were satisfactory as all the patients expressed satisfaction.

Table 4: Injury sites versus time of presentation

Injury site	24hrs	after 24hrs	Total
Lips	10	4	**14**
Nose	1	6	**7**
Ear	-	5	**5**
Tongue	-	1	**1**

Table 5: Reconstructive procedures and outcomes

Injury site	Technique	Number	Outcome
Lips	V-excision with Primary closure	12	**Satisfactory**
	Abbe-Islander flap	2	**Satisfactory**
Nose	Superiorly Base	3	**Satisfactory**
	Naso labial flap	3	**Satisfactory**
	Transposition flap	1	**"**
Ear	Retro-auricular tube flap. Wedge excision and closure	3	**Satisfactory**
		2	

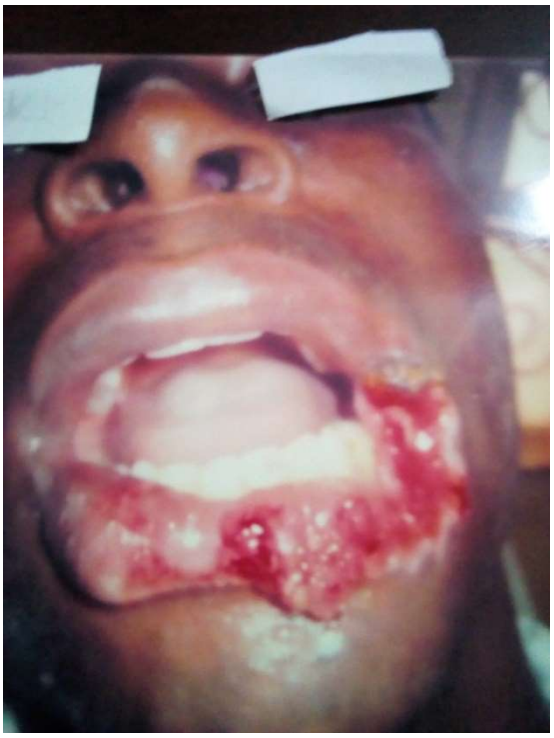
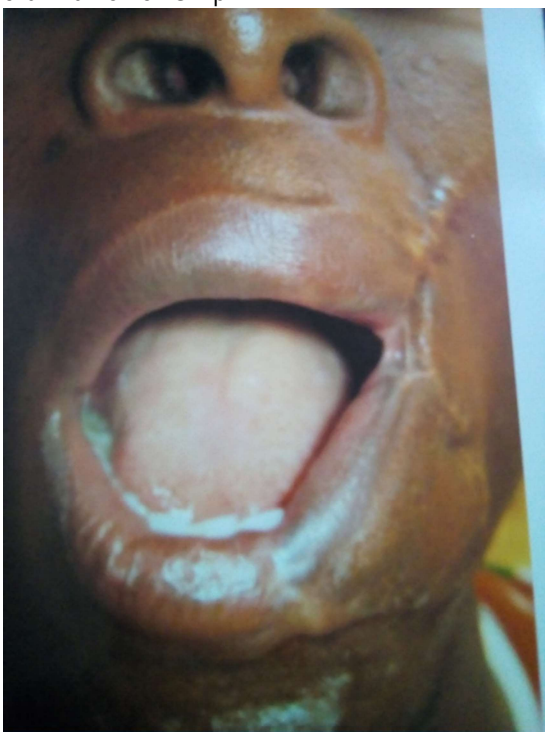


Figure 1a: A 23yr old boy with human bite to more than half of lower lip.



Figures 1b: 3months after V shaped excision and Abbe Islander flap.

Figures 2: Abbe-Islander flap was done.

DISCUSSION

Human bites are serious injuries that may result in infection and gross disfigurement. Infection from oral contaminants, tissue damage and difficult surgical reconstruction make the management of human bite injuries a challenge.[3] The goals of reconstructive surgery include: achieving wound closure, restoring anatomic landmarks and minimizing surgical revisions as well as psychological trauma.[4-8] Accurate assessment of tissue loss and due consideration of reconstruction options were crucial to a successful outcome.[6]

The head and neck region is perhaps only second to the forearm region in acts of deliberate human bites.[2] Human bites are considered as weakness on the assailants: when someone could not match his colleague in a fight he results to bites.[5] In Northern Nigeria human bites are not as common as reported in the Southern Nigeria.[5] Love affairs and love gone sour were reported by many authors (6,7,8) as the commonest cause of bite which this study observed to be the same. Olaitan et al.[3] in their similar study carried out in Eastern Nigeria reported that all socioeconomic groups were affected, in contrast to

this study where all the patients were of low socio-economic status. The cases reported in this study were of low incidence, when compared to similar studies from other parts of Nigeria.[7] Datube-Brown 1988 in a similar survey reports a series of 24 patients in a two-year period in Port Harcourt in Nigeria.[8]

In the western world, human bite was reported among disabled individuals by Lindsey and colleagues[9], but in this study no disabled was affected. Asuku et al.[10] reported that human bite injuries were commoner in females in their second decade of life in contrast to the findings in this study where males of the same age groups were most affected, his study was done in Zaria which predominantly is Hausa-Fulani settlements where culture despise human bite and is seeing as a disgraceful act of weakness[10], whereas this study was done in a cosmopolitan city of Kaduna where males were very aggressive when it comes to sexual partners.

We noted in this study that unmarried males in the age group 21-30 dominated as victims; also unmarried females were involved in the same age group. Human bites in this study has more male victims as compared with what others authors reported. [6-15].

Our study showed that the lower lip was more prone to being bitten; this is consistent with the finding of other authors (16-18). This may be explained to be as a result of the prominent anatomical position of the lower lip; the middle third of the lip is the most bitten. The report of a case of tongue bite in our study was one of the few to be reported in literature. Majority (n=16, 59.3%) of our patients presented after 24hours of incidence, this could be attributed to distance of the Teaching Hospital to the place of occurrence, and inadequate knowledge of which Hospital could best handle the case. Many had first sought for treatments in the Chemist Shops, nearby Private Hospitals and General Hospitals where they had received tetanus prophylaxis, analgesics, antibiotics, wound dressing and few times failed attempted primary wound closure, before referring to the Teaching Hospital. Wound infection was rare despite late presentation; this could be attributed to the treatments received at the previous medical centres. This was consistent with Asuku et al.[10] findings. Our reconstructive procedures included: V shaped wedge excision and primary closure of the lip for the defects at the middle third of the lip and done under local anaesthesia, Abbe Islander flap for distal and mesial lip defect done under general anaesthesia, nasolabial flap, superiorly based nasal flap, and transposition flap were done for nasal defect under general anaesthesia, and retroauricular tube flap, wedge excision and closure were done for ear defects. This was consistent with various authors[6-12] surgical reconstructive procedures. The overall surgical reconstructions for our patients were satisfactory.

CONCLUSION

Human bites are potentially dangerous wounds and constitute a significant cause of morbidity. All doctors should be well acquainted with the evaluation and proper management of human bites to avoid complication. Early wound treatment, antibiotics prophylaxis and surgical evaluation are necessary to achieving desired treatment outcomes.

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