

Original Article

Labial lesions by human bite

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Abstract – Introduction: A bite from another human is an unusual cause of maxillo-facial traumatology. Our objective was to describe the epidemiologic and clinical characteristics of labial lesions caused by this kind of bite. **Patients and methods:** A descriptive prospective study was carried out at the University hospitals of Yalgado OUEDRAOGO and Blaise COMPAORE in Ouagadougou in Burkina Faso between June 2012 and May 2017. **Results:** We collected a sample of 28 patients with an average age of 32.5 years. The sex ratio was about 0.3. All the bites had been inflicted by women. The victims generally came from an underprivileged socioprofessional background. The bite had occurred during a brawl in 26 patients (92.9% cases) and in some context of aggression among 2 patients. The lesions were located on the lower lip among 21 patients, the upper lip among 4 patients, and along the commissure among 3 patients and resulted in a loss of tissue among 23 patients (82.1%). The treatment was surgical in nature, using trimming and labialization with satisfactory results in all cases. **Conclusion:** The circumstances surrounding the bites are not always clear and the lesions are almost always serious and require delicate treatment.

Introduction

Bites are a cause of maxillofacial trauma, and they most commonly are the result of animal bites, especially in children [1,2]. The most common human bites are self-inflicted accidentally during falls, epileptic seizures, or tic disorders, and often affect the tongue or the malar mucous membrane [3,4]. Voluntary human bites are most commonly reported in children during play [5]. Human bites in adults are uncommon and are poorly described [6]; in fact, most human bites are believed to not be reported in the literature [1,2,6]. Such bites are very serious traumas from the outset and deserve greater attention. This is because human bites are very often deep and generally result in tissue loss of varying degrees [7]. In addition, bacteria and viruses in human saliva result in infections in most cases [8]. The majority of human bites involve the face, and the most affected parts are the ear, nose, and lips [4,6,7]. Labial bites inflicted by a third party were the focus of our study, which aimed to describe the circumstances of occurrence, the clinical lesions, and the essential steps for managing this pathology.

Patients and methods

We conducted a prospective descriptive study referring to the medical records of patients seen and treated for labial lesions resulting from bites inflicted by a third party. This study was conducted in the departments of Stomatology and Maxillofacial Surgery at the Yalgado OUEDRAOGO and Blaise COMPAORE University Hospital Centers over a period of 5 years from June 2012 to May 2017. Our study population was a comprehensive nonprobability sample. Included in the study were all cases of labial bites inflicted by a third party and treated at the aforementioned hospitals during the study period. We examined the patients during the initial consultation and completed data collection by referring to hospital records, operating records, and patient medical reports. The variables studied were epidemiological (age, sex, occupation), clinical, and therapeutic. The data were analyzed using the French language version of the August 2008 edition of the EPI INFO 3.5.1 software.

Results

Our sample included 28 patients who consulted the hospital for a labial bite inflicted by a third party. The sample consisted

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Table I. Distribution of patients according to their socio-professional background.

Occupation	Number	Percentage (%)
Farmer	4	14.3
Housewife	3	10.7
Waitress	4	14.3
Hairdresser	4	14.3
Soldier	2	7.1
Unemployed	7	25
Shop worker	3	10.7
Student	1	3.6
Total	28	100

Table II. Distribution of patients according to the location of the incident and the status of the aggressor.

Location	Aggressor	Number	Percentage (%)
Home (living with partner)	Wife	2	7.1
Drinking establishment	Waitress	8	28.6
School	Classmate	1	3.6
Brothel	Prostitute	4	14.3
Workplace	Colleague	6	21.4
Street	Unknown	2	7.1
	Neighborhood	5	17.9
Total		28	100

on 22 women and six men, with a sex ratio of 0.3. The mean age of the patients was 32.5 years, with a range of 16–61 years.

The bites had been inflicted by women in all cases. Victims were most often from disadvantaged socioprofessional backgrounds (Table I).

The bite occurred during a fight in 26 patients (92.9% cases) and during an attack in two patients. Actual circumstances have not always been accurately reported because of patient discomfort. The most frequent were brawling in drinking establishments, workplaces, and neighborhoods (Table II).

The perpetrator was unidentified in two cases.

The consultation time was <6 h for nine patients, 6–12 h for 13 patients, and >12 h for 6 patients.

The location of the injury was the lower lip in 21 patients, upper lip in four patients, and the commissure in three patients. These were contused wounds with irregular borders and often showed the visual imprints of the teeth in the tissue.

Lip tissue loss was noted in 23 patients (82.1%). These tissue losses did not exceed one-third of the lip (Table III).

In one case, the lip tissue fragment amputated by the aggressor was ingested by the victim. The amputated fragment was brought to the hospital by 17 patients.

Table III. Distribution of patients by location of tissue loss.

Location	Number	Percentage (%)	
Upper middle third	2	8.7	
Lower middle third	9	39.2	
Lower lateral third	Right	6	26.1
	Left	4	17.4
Labial commissure	Right	1	4.3
	Left	1	4.3
Total	23	100	

All patients received antibiotic treatment (amoxicillin + clavulanic acid combined with metronidazole) and an analgesic (paracetamol).

Anti-tetanus prophylaxis was also performed with tetanus antitoxin and tetanus vaccine in all patients. Prophylaxis against viral hepatitis was performed in a patient who consented to a viral hepatitis B screening test.

The surgical treatment consisted of careful tissue debridement after disinfection with hydrogen peroxide and povidone-iodine. A simple suture was performed in lesions without tissue loss but almost always preceded by debridement of the wound margins. In lesions with tissue loss, a labioplasty were required with only advancement flaps. The results were favorable in all cases (Figs. 1 and 2). Labioplasty was performed under local xylocaine anesthesia in 17 patients and under general anesthesia in the operating room in 11 patients (day surgery). Postoperative follow-up was performed on an outpatient basis.

Discussion

Human bite injuries inflicted by a third party are relatively rare in the clinical context but deserve special attention. The prevalence and incidence of human bites are unknown and probably underestimated because not all cases are reported [6,9–11]. Human bites are the third most frequent cause of bites in the United States after dog and cat bites [12]. The most common intentional human bites involve the face and hands [6,13,14]. In our study, these lesions were primarily confined to young adults, who were often female (average age 32.5 years with an age range of between 16–61 years, and a sex ratio of 0.3). A Nigerian study of human bite lip lesions also found that these lesions were predominantly found in young adults (mean age 32.6 years with a range between 21 and 54 years), but in their study both sexes were affected equally [6]. Although the circumstances showed variations, but the greatest number of bites had occurred during brawls in drinking establishments, similar to the findings in the EARDEY study [13] in England. In a Nigerian study, marital brawls and quarrels were also among the main causes [6]. The consultation time was relatively short, with 78.6% patients presenting for consultation within 12 h. This readiness for consultation would be related to the functional and esthetic discomfort related to labial lesions [2].



Fig. 1. Lower lips lesion with right third tissue loss (before and after cure).



Fig. 2. Lower lips lesion with middle third tissue loss (before and after cure).

The lesion was most often located on the lower lip (75% lesions). It is the most common site of human bite lip lesions as described by most authors [4,2,6]. The lesions found were almost always severe because they were very deep with tissue loss in 82.13% cases. The depth of the lesions is relative to the length of the anterior teeth (incisors and canines), which are the sharpest and which can bite into the lip on both sides (cutaneous and mucous). When bitten, the opposing teeth of the two arches may come into contact, resulting in a section of the lip being severed entirely [7,15]. However, the tissue loss was not significant compared to the lesions described in the bites inflicted by other animals (dogs and donkeys) [1,16]. In fact, the tissue loss did not exceed one-third of the lip.

The lesions were immediately sutured contrary to the classic bite treatment response [5,8,12,17–19]. The anatomical and functional features of the lips help to explain this urgency. Of course, although the main function of lips is to act as a sphincter, they constitute an essential part of the face when it comes to static and dynamic esthetics. It follows that any lesion affecting this anatomical entity could have significant consequences on this dual roles of esthesia and functionality [2,20]. As a result, a wound in this region, with additional tissue loss, cannot be left open to heal for managed healing [6,20]. In addition, immediate repair has the advantage of improving the esthetic and functional results because the anatomical landmarks are always clearly visible. However, when the patient presents late with an already infected wound, this surgery should be postponed until the infection has subsided [6]. Every precaution must be taken to minimize the risks of infectious complications, which are very likely because human saliva generally contains several types of pathogens. In addition to bacteria, there are also some potentially transmissible viruses, such as hepatitis viruses, that should be considered in prophylactic management [4,8]. We opted for broad-spectrum antibiotic therapy against aerobic and anaerobic bacteria to minimize the risk of infectious complications.

Conclusion

Human bites were relatively infrequent in our context and young women were the most frequently affected. The main causes were brawls and fights, with the lesions primarily affecting the lower lip. Tissue losses were present in the most serious cases, along with a increased risk of infection. The surgical treatment was performed immediately, leading to promising results in all the patients. In emergencies, it is classically recommended never to suture a bite wound. However, in the case of the lip injuries, the wound is gaping and is located in an area where the esthetic and functional prognosis is unique. Therefore, immediate suturing should always be considered with strict asepsis for lip bites, along with prophylactic antibiotic therapy and appropriate prophylactic vaccination.

Conflicts of interests: The authors declare that they have no conflicts of interest in relation to this article.

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