HUMAN BITES: A STUDY AT KENYATTA NATIONAL HOSPITAL, KENYA

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A THESIS SUBMITTED IN PART FULFILMENT FOR THE DEGREE OF MASTER OF MEDICINE (SURGERY) IN THE UNIVERSITY OF NAIROBI, 1986.

DECLARATION:

This thesis is my original work and has not been presented for a degree in any other University.

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This thesis has been submitted for examination with my approval.

MR. M. M. MBALU, FRCS

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7/4/86

SUMMARY:

A prospective study was done on sixty two patients at Kenyatta National Hospital casualty department and followed up in Plastic Surgery outpatient clinic between 3rd December, 1984 and 1st February ,1985. A report is given on incidence, sex and ages of victims and assailants sites of bite, type of wounds, duration of victims took to report to hospital, causes of bite, relationship of victims to assailants, morbidity, complications and bacteriology including sensitivity pattern of organisms. Treatment was aslo outlined.

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I would like to thank the various members of the departments of casualty, Plastic Surgery, Microbiology and Medical Records(Casualty Department) who helped me make this study a success by their cooperation and assistance.

Secondly, I would like to thank **MR.M.M. MBALU,F.R.C.S., MR.M.T.GHALI, M.D.** and **MR.B. P.BANJARA,** both of Department of Plastic Surgery for their encouragements while doing this study, and for allowing me follow my patients in the Plastic Surgery outpatient clinic.

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CHAPTER 1

INTRODUCTION, HISTORICAL REVIEW AND OBJECTIVES.

Teeth are important organs. They have many functions according to their shapes. These include cutting, tearing and grinding. Other functions are cosmetic, where teeth can be regarded as symbols of beauty, and identification of a person in his ethnic group especially in those who remove or shape their teeth in a particular way. Also teeth can be used as weapons to attack, in defence, causing human bites.

TOMASETTI, B.J. in 1979 [1] defined a human bite as the one inflicted on a person by another one. In his study he did not include bites caused by an individual on himself. Usually these are bites of the tongue, lower lip and fingers especially in people who suck their thumbs. PALMER and REES in 1983 [2] however, categorized human bites into three groups. These are:-

1. The bite from assailant
2. The bite upon the fist of assailant
3. Self inflicted bite of tongue or lower lip.

Human bites came into clinical reports at the beginning of the twentieth centuary though their effects were known and feared since early. HUTGEN, J.F.: in 1910 [3] reported a patient with gangrene of the left index finger caused by Fusiform bacillus and Spirochaeta denticola. In 1930,

KOCH, S.L. and MASON, M.E. [4] in their paper on management of human bite infections of the hand, observed that soap and water cleaning and debridement of human bites, yielded good results. In 1931, BATES,W. [5] in his paper reported 80% success in prevention of human bite infections by electrocauterization. He however reported a problem of tissue destruction associated with cautery. In 1937 DUNN, E.P. [6] emphasised the use of cauterization. He added chemical cauterization by fuming Nitric acid. In 1941 SPIERS,R.E. [7] did a study similar to that of KOCH and stressed the treatment observed by him.

Human bites are traditionally believed to be caused by females, hence more female patients and assailants. EARLY in 1984 [8] in his study of human bites of the face, had one female out of fourty one patients.

The ages of patients and assailants are the active age group between second and fourth decades [8].

The upper limbs and the head and neck are the site commonly affected in human bites. Of the bites on the head EARLY [8] reported the following:-

83% - Ear injuries

15% - Nose tip

2% - Lower lip.

The types of wounds caused by human bites are classified according to LASKIN [9] into:-

1. Bruises
2. Punctured wound or linear tear
3. Avulsion of an area
4. Seperation of a pedunculated flap
5. Amputation.

There are various circumstances which can lead to human bites. In 1950 CRIKELAIR [10] noted these to be fights, accidentally by children playing and sexual attack. EARLEY in 1984 [8], in his study noted causes of bites to be fights 66%, unprovoked assailants 29% and no cause in 5%.

Infection rate in human bites is high considering the commensuals on the skin and in the month. The normal body flora on the skin include Staphylococcus albus, Staphylococcus aureus, Diptheroid bacilli, Escherichia coli and fungi. In the mouth they are Staphylococcus albus, viridaus Streptococcus, Bacteroids and commensual spirochetes [11,12]. CRIKELAIR in 1950 [10] was among the first people to do a thorough bacteriological study of human bite infections. He isolated Staphylococcus aureus, Staphylococcus albus, Spirochetes, Streptococcus and anaerobes.

As observed by KOCH [4] and others treatment of human bites require cleaning of the wounds with antiseptics and surgical

toilet under antibiotic cover. CRIKELAIR in 1950 (10), treated patients with penicillin and sulpha and had low infection rate. EARLEY (8) in his study, had 2.5% infection rate on patients who had prophylatic antibiotics.

At Kenyatta National Hospital, human bites are not uncommon. On reviewing casualty department register of 1977 between 1st December 1977 to 31st January 1978, 40 patients of human bites were seen during this period of 60 days, making 0.67 patients seen per day. An average of 70 patients were seen at casulaty department surgery room daily (13). This makes an incidence of human bites of about 1% per day. Compared to other bites, human bites were second in occurence to dogbites. There were 63 patien of dog bites during the same period, with an average of one patient per day, making an incidence of 1.4 percent per day. Snake bites as reported by MBINDYO, B.S. in 1975[14] are not very common. The incidence is about one patient per month.

Since human bite injury was a common problem at Kenyatta National Hospital as seen at casualty department an interest of a deeper study was initiated, hence a prospective study was done with an aim of obtaining the following:-

1. Incidence
2. Sex distribution of victims
3. Age distribution of victim

4. Site of bites
5. Types of wounds
6. Duration of patients took to report to hospital
7. Age and sex distribution of assailants
8. Causes of bites
9. Relationship of assailants to victim
10. Treatment
11. Complication
12. Morbidity and
13. Bacteriology of septic wounds.

CHAPTER 2:

MATERIALS AND METHODS:

Between 3rd December 1984 and 1st February 1985 all patients with human bite injuries comming to Kenyatta National Hospita' casualty department surgery room were seen and the following were recorded:-

1. DATE AND THE NAME OF THE PATIENT
2. SEX OF THE PATIENT
3. AGE OF PATIENT
4. SITE OF BITE
5. TYPE OF WOUND
6. DURATION BETWEEN INJURY AND REPORTING TO HOSPITAL.
7. AGE AND SEX ASSAILANTS
8. RELATIONSHIP OF ASSAILANT TO VICTIM
9. INITIAL TREATMENT OF THE PATIENT.

Patients were then followed up in Plastic Surgery outpatient clinic for complications and later treatment. Pus swabs from septic wounds were taken to determine the type of bacteria and their sensitivity patterns to antibiotics.

CHAPTER 3:

RESULTS

INCIDENCE:

The duration of this prospective study was 60 days from 3rd December 1984 to 1st February 1985. The total number of patients with human bite injuries seen at casualty department during the study period was 62. Hence there was about one patient per day. The average number of patients seen at casualty department surgery room was 100 per day. This makes the incidence of human bites to be 1% per day.

SEX DISTRIBUTION OF VICTIMS:

Among the victims (patients), females were 33(53.2%) and males were 29 making a percentage of 46.8. (TABLE 1).

TABLE 1

SEX DISTRIBUTION OF VICTIMS (PATIENTS)

SEX	NUMBER	PERCENTAGE (%)
MALES	29	46.8%
FEMALES	33	53.2%
TOTAL	62	100.0

AGES OF THE SIXTY TWO PATIENTS:

There was 1 patient in the age group between 0-9 years, making a percentage of 1.6 of all the patients, 5 patients in between 10-19 years making 8%, 37 patients in between 20-29 years making 59.7%, 12 patients in between 30 - 39 years making 19.4%, 3 patients in between 40-49 years making 4.8% and 4 patients among 50 years and above making 6.5% (Table 2).

TABLE 2:

AGE DISTRIBUTION OF PATIENTS

AGE (YEARS)	NO.OF PATIENTS	PERCENTAGE
0-9	1	1.6
10-19	5	8.0
20-29	37	59.7
30-39	12	19.4
40-49	3	4.8
50 and above	4	6.5
TOTAL	62	100.0

SITES OF BITES:

On the sixty two patients seen,there was a total number of 86 bites on their bodies. Of these 39 bites were on the upper limbs, 34 on the head and neck, 10 on ths trunk and 3 on lower limbs making 45.4%, 39.5%, 11.6% and 3.5% of all the bites respectively (Table 3).

Of the 39 bites on the upper limbs,25 were on fingers and hands 10 on forearms and arms, and 4 were on shoulders (Tables 4). Among the 34 bites of the head and neck, 3 were on the scalp, 6 on forehead, 3 on nose, 4 on ears 6 on cheeks, 8 on lips, 3 on chin and 1 on the neck (Table 5) On the trunck, of the 10 bites, 5 were on the chest 2 on breast, 1 on the abdomen and 2 on the back (Table 6). And of the 3 bites on the lower limbs, 2 were on thighs and 1 on legs (Table 7).

TABLE 3:

SITES OF BITES

SITE	NUMBER OF BITES	PERCENTAGE
Upper limbs	39	45.4
Head and Neck	34	39.5
Trunck	10	11.6
Lower Limbs	3	3.5
TOTAL	86	100.0

TABLE 4

BITES OF THE UPPER LIMBS

SITE	NUMBER OF BITES
Fingers/Hands	25
Forearms/arms	10
Shoulders	4
TOTAL	39

TABLE 5

BITES OF HEAD AND NECK

SITE	NUMBER OF BITES
Scalp	3
Forehead	6
Nose	3
Ears	4
Cheeks	6
Lips	8
Chin	3
Neck	1
TOTAL	34

TABLE 6:

BITES OF THE TRUNK

SITE	NUMBER OF BITES
Chest	5
Breasts	2
Abdomen	1
Back	2
TOTAL	10

TABLE 7:

BITES OF LOWER LIMB

SITES	NUMBER OF BITES
Thighs	2
Legs	1
TOTAL	3

TYPES OF WOUNDS CAUSES BY HUMAN BITES

Among the 86 bites on the patients, Bruises were 34 (44.2%), punctured wounds 29(33.7%), Avulsions 11(12.8%), Amputation 5(5.8%) and seperation of a pedunculated flap 3(3.5%)(Table 8).

TABLE 8

TYPES OF WOUNDS CAUSED BY HUMAN BITES

TYPES	NUMBER OF BITES	PERCENTAGE(%)
Bruises	38	44.2
Punctued	29	33.7
Avulsion	11	12.8
Amputation	5	5.8
Seperation of pedunculated flap	3	3.5
TOTAL	86	100.0

DURATION BETWEEN INJURY AND REPORTING TO HOSPITAL:

There were 18 patients who reported to Kenyatta National Hospital casualty department within 4 hours of injury. 16 patients between 5 to 9 hours 8 between 10-14 hours, 2 between 15-19 and 18 after 20 hours and above (Table 9).

TABLE 9

DURATION BETWEEN INJURY AND REPORTING TO HOSPITAL

HOURS	NUMBER OF PATIENTS
0-4	18
5-9	16
10 - 14	8
15 - 19	2
20 and above	18
TOTAL	62

ASSAILANTS (ATTACKERS):

There were 60 adult assailants reported by patients making 96.8% and 2(3.2%) were children.

As for the sex of the assailants, there were 26(41.9%) males biting males,7(11.3%) males biting females,25(40.3%) females biting females,and 4(6.5%) females biting males.(Table 10 and 11).

TABLE 10:

AGE DISTRIBUTION OF ASSAILANTS

AGE	NUMBER	PERCENTAGE
Children	2	3.2
Adults	60	96.8
TOTAL	62	100.00

TABLE 11.

SEX DISTRIBUTION OF ASSAILANTS

SEX	NUMBER	PERCENTAGE(%)
Male biting male	26	41.9
Male biting female	7	11.3
Female biting female	25	40.3
Female biting male	4	6.5
TOTAL	62	100.00

CAUSES OF BITES:

Among the 62 patients, 30(48.4%) were assaulted by unprovoked assailants, 31 (50.0%) were fights after provokation and 1(1.6%) the bite was in sexual attacks, (Table 12).

TABLE 12.

CAUSES OF BITES

CAUSE	NO. OF PATIENTS	PERCENTAGE(%)
Assault	30	48.4
Fights	31	50.0
Rape	1	1.6
TOTAL	62	100.0

RELATIONSHIP OF ASSAILANTS TO VICTIMS (PATIENTS)

Of assailants, 31 (50%) were unknown to victims. 12(19%) were neighbours, 8(12%) thugs who assaulted the victims, 3(4%) husbands, 2(3%) girlfriends to husbands, 1(2%) wife to victim, 1(2%) co-wife, 1 (2%) mother-in-law, 1 (2%) wife to boyfriend, 1(2%) boyfriend and 1(2%) friend (samesex) (Table 13).

TABLE 13:

RELATIONSHIP OF ASSAILANTS TO VICTIMS

RELATIONSHIP	NO.OF ASSAILANTS	PERCENTAGE(%)
Unknown to victim	31	50
Neighbour	12	19
Thugs	8	12
Husband	3	4
Girlfriend	2	3
Wife	1	2
Co-wife	1	2
Mother-in-law	1	2
Wife to boyfriend	1	2
Boyfriend	1	2
Friend	1	2
TOTAL	62	100

TREATMENT

All the 62 patients were given Tetanus Toxoid injections and 38 had their wounds cleaned and dressed. One had wound done debridemer and dressing, and 5 debridement and primary suture of wounds. Antibiotics were given to 26 patients analgesics (Para-cetamol and Acetyl Salicylic Acid) to 13 blood transfusion to one, delayed primary suture to 6, secondary suturing to 3 and 3 patients were refered to Plastic Surgery clinic for reconstruction surgery (Table 14).

TABLE 14

TREATMENT GIVEN TO PATIENTS:

TREATMENT	NO.OF PATIENTS
Tetanus Toxoid	62
Cleaning and dressing of wound	38
Debridement and dressing of wound	1
Debridement and Primary suture	5
Antibiotics (Penicillin/Septrin)	26
Analgesics (Paracetamol/Aspirin)	13
Blood transfusion	1
Delayed Primary suture	6
Secondary suturing	3
Refered to Plastic Surgery for reconstruction	3

COMPLICATIONS:

There were 29(46%) patients with no complications among the 62. Infection was seen in 20(32%) patients, abnormal behaviour 1(2%) haemorrhage 1(2%) and cosmetic disfigurement to 11(18%), (Table 15)

TABLE 15:

COMPLICATIONS OF HUMAN BITES:

COMPLICATION	NO.OF PATIENTS	PERCENTAGE(%)
Infection	20	32
Abnormal behaviour	1	2
Haemorrhage	1	2
Cosmetic disfigurement	11	18
No Complications	29	46
TOTAL	62	100

MORBIDITY:

Patients who had their wounds infected, were allowed to go off duty between one to four weeks.

BACTERIOLOGY OF SEPTICWOUNDS:

Pus swabs from septic wounds for culture and sensitivity were taken from 18 patients out of 20 who had their wounds infected. Pathogens were cultured from 14(77.8%) patients and no pathogens were isolated from 4(22.2%) of them (Table 16).

Of the positive cultures Staphylococcus aureus was isolated in 6(35%) of them. Streptococcus faecalis in 3(17%) Beta Haemolytic Streptocce 2(12%) Pseudomonas aeruginosa 2(12%), Escherichia Coli 2(12%), Proteus species 1(6%) and Citrobacter 1(6%) (Table 17).

In 6 cultures which grew Staphylococcus aureus, this organism was sensitive to septrin in 5 cultures, Tetracyclines in 4 ,Aminoglycosides in 4, penicillins in 2 and sulphonamides in 2 cultures.

Among the 3 cultures where Streptococcus faecalis was isolated, it was sensitive to penicillins in 2 cultures, Erythromycin in 2, Septrin in 1 and Polymixin B in 1 culture.

Beta-Haemolytic Streptococci was sensitive to pencillins in 2 culture, Erythromycin in 2, Tetracyclines in 1, Septrin in 1 and aminoglycosides in 1 culture.

Pseudomonas aeruginose was sensitive to pencillins in 2 cultures, Polymixin B in 1 and Aminoglycosides in 1 culture.

Escherichia coli was sensitive to penicillins in 2 cultures polymixin B in 2, Aminoglycosides in 2, Tetracyclines in 1 and septrin in 1 culture.

Proteus was sensitive to pencillin in 1 culture, Septrin in 1 and aminoglycosides in 1 while Citrobacter was sensitive to Pencillin in 1 culture, Tetracycline in 1, Septrin in 1 and Aminoglycosides in 1.

Among all the cultures, 12 had organisms sensitive to Pencillins, 10 to septrin, 10 to Erythromycin 10 to Aminoglycosides, 7 to Tetracycline, 4 to Polymixin B and 2 to Sulphadiazine (Table 18).

TABLE 16:

RESULTS OF PUS SWAB CULTURES FROM PATIENTS WITH SEPTIC WOUNDS.

	NUMBER	PERCENTAGE(%)
Cultures with Pathogens isolated	14	77.8
Cultures with no Pathogens isolated	4	22.2
TOTAL	18	100.0

TABLE 17;

TYPES OF ORGANISMS CULTURED:

BACTERIA	NO. OF CULTURES WITH BACTERIA.	PERCENTAGE
Staphylocaccus aureus	6	35
Streptococces faecalis	3	17
Beta-Haeneolutic Streptococce	2	12
Pseudomonas aeruginosa	2	12
Escherichia coli	2	12
Proteus	1	6
Citrobacter	1	6
TOTAL	17*	100

NB : *Some cultures had more than one type of bacteria isolated.

TABLE 18

SENSITIVITY PATTERN OF BACTERIA ISOLATED ANTIBIOTICS

BACTERIA	PENCILLINS	TETRACYCLINES	SULPHONAMIDES	SEPTRIN	ERYTHROMYCIN	POLYMIXIN B	AMINOGLYCOSIDES
Staphylococcus	2	4	2	5	6	-	4
Streptococcus faecalis	2	-	-	1	2	1	-
Betagaemolytic Streptocci	2	1	-	1	2	-	1
Pseudemonas aerogenosa	2	-	-	-	-	1	1
Escherichia Coli	2	1	-	1	-	-	2
Proteus	1	-	-	1	-	-	1
Citrobacter	1	1	-	1	-	-	1
NUMBERS OF CULTURES:	12	7	2	10	10	4	10

CHAPTER 4.

DISCUSSION:

INCIDENCE:

With an incidence of one percent per day at Kenyatta National Hospital casualty department, Human Bites are not uncommon. This gives a reflection that many patients are bitten in Nairobi, keeping in mind that some patients are treated at Health Centres and private hospitals.

SEX DISTRIBUTION OF VICTIMS:

Traditionally people believe that human bite victims are females bitten by females. In this study however, it has been shown that the sex distribution of victims in Nairobi population is almost the same. Females were a little more but the difference was not satisfactically significant (Table 1). The male to female ratio was 1:1.2.

AGE OF THE PATIENTS:

Human bite injuries occur in the active age groups between ten and fourty years. In this study the peak was in twenties (Table 2). In these ages of youth, people involve themselves in activities which can precipitate bites. These include alcoholism, drug addition and sports activities. In a study done by EARLEY in 1984 (8) the age commonly affected was the same between fifteen and fourty years.

SITES OF BITES:

As organs of prehension, the upper limbs, being involved to attack, in defence, are the commonest injured (Table 3). On the upper limbs, the fingers and hands are the commonest involved followed by arms, forearms and shoulders (15,16, Table 4). The head and neck are secondly affected in human bites (Table 3). In this region the lips are injured most followed by cheeks, forehead,ears,nose, scalp,chin and neck in that order (Tables 5). In studies done on caucassians (8), the tip of the nose is the commonest affected. The difference with this study is probably anatomical where patients in this study were Negroids having flat noses with lips easily reached than tips of noses.

The trunck is the third commonly affected. The chest, back and the abdomen are affected commonly in that order. In chest injuries, the breasts and nipple are bitten is sexual attacks.

The lower limbs are the least affected. However, there are rare sites which have been reported in literature. These include the eyelids (8) and glanspenis. The latter can occur in people with dogbites (17).

TYPES OF WOUNDS CAUSED BY HUMAN BITES:

The types of wounds caused by human bites vary with the force of biting applied by the assailants. Wounds caused by less biting force are commonest, followed by wounds caused by much force. Hence bruises are the commonest,followed by punctured wounds, avulsions,

amputations and seperation of a pedunctulated flap (Table 8). Bruises as mentioned above being caused by less biting force affect the epidermis. Punctured and linear wounds go deep to the dermis or subcutaneous tissues. Sometimes when the force of biting is much a part of fullthickness skin can be removed causing an avulsion of skin or it can be seperated leaving a pedicle at an end, like a flap. When this force is applied on places like fingers, a part of this can be amputated.

DURATION BETWEEN INJURY AND REPORT TO HOSPITAL

Most people who have human bite injuries report to hospital quite early due to fear of their effect. They believe that human bites are the worst. Others report early to hospital because of medico-legal aspects so that Police forms can be filled in oder to sue the people who attacked them. In this study, the majority reported to hospital within the first ten hours (Table 9).

ASSAILANTS (ATTACKERS):

AGE: It is not easy to know the specific ages of assailants. However, if they are grouped into children and adults, it is found that the majority are adults (Table 10). Children could be many but they do not feature much because their force of biting is not enough to cause injury.

SEX: It has been shown in this study that the sex distribution of assailants among the Nairobi population is almost the same (Table 11).

Actually there were more male assailants than females, though the difference was not statisfically significant. Assailants biting victim of the same sex are the commonest.

CAUSES OF BITES:

Human bites usually occurs in situations where there is violence. These include fights, assautts by unprovoked people, and sexual attacks. Fights and assaults are the commonest cause of human bites in Nairobi (Table 12). Bites caused accidentally by children playing (10) are not common.

RELATIONSHIP OF ASSAILANTS TO VICTIMS:

In human bite injuries, most of the assailants are unknown to the victims(8). In this study however, it was shown that 50% of the assailants were known to victims. These included neighbours,husbands, girlfriends, wives,co-wives,mother-inlaws, wives to boyfriends and boyfriends (Table 13). Of the unknown assailants, the majority are thugs.

TREATMENT:

In initial treatment,all patients with human bite wounds should be given Tetanus Toxoid for prophylaxis against Tetanus infection. They should have their wounds cleaned thoroughly and devitalized tissues excised (18). Cleaning is done with normal saline solution and Hydrogenperoxide. Wounds should be left open for delayed primary

or secondary suturing later. These apply to wounds especially of fingers where blood supply is not very good. In areas where blood supply is excellent like the face,primary suturing of the wound can be attempted particulary in view of keeping anatomical alignment of tissues (10). Careful management should be aimed at punch wounds especially those involve metæ arpo-phalangeal joints(19). This should be considered as emergencies. Thorough surgical toilet should be done and repair of tendons and joint capsule later. All patients with human bite wounds other than bruises which are superfical, should be put under antibiotics cover.

Other treatment include simple analgesics and blood transfusion when needed. In this study one patient who had her nipple amputated,was in haemorrhagic shock and had to be transfused with blood. Later treatment include specific antibiotics after cultures and sensitivity results, and plastic surgery reconstruction in case of cosmetic disfigurement.

COMPLICATION:

Human bite wounds have complications usually. These include include infections(20,8) which can result to gangrene,provision of a good envimnment for tetanus

infection and septicaemia. Others are transmission of diseases like syphilis (21) and serum Hepatitis (22,23), haemorrhage, depression especially in ladies with cosmetic disfigurement, and economical problems whereby a person can stop earning due to the complications which can follow. In this study, infection was the commonest complication with a rate of 32%. This is because most of the patients were not covered with antibiotics as compared to other studies (20,8). Rabies can be transmitted by human bites in case the assailant is rabid. In this study, there was one patient with abnormal behaviour (Table 15). This was a twelve years old girl who was bitten by a boy unknown to her. Five days later she was noted to fear water and that she could not swallow even her saliva. She was seen at casulaty department then admitted in a Paediatric Observation ward where she died with a provisional diagnosis of rabies. Also with the discovery of Human T-cell Lymphotropic virus type III which is now considered to be the pathogen for Acquired Immuno-Defficiency Syndrome (AIDS) disease, in saliva, by GOOPMAN,J.E. in 1984(24) it might be proved in future that this disease can be transmited through human bites.

MORBIDITY:

Inview of the complications, human bites can cause a significant morbidity. It was shown in this study that

patients who had infection of their wounds were allowed to be off-duty between one to four weeks.

BACTERIOLOGY OF SEPTIC WOUNDS

Organisms causing infection of human bites wounds are usually the normal flora of the mouth and skin. These are both aerobic and anaerobic bacteria. Aerobes are the commonest and as shown in this study, Staphylococcus aureus is the most frequent infecting organism. Others include Strephococuss faecalis, Beta.Haemolytic Streptococci Pseulomonas aeruginose, Proteus and Citrobacter species. Among the anaerobes, Bacteriodes are included,for example Fusiformis fusiformis (10). Others are commensual Spirochaetes in the mouth, Borrelia vincenti. Clostridia infection isofexogenous origin like spores in air and dust since it is not part of normal body flora on skin and in the mouth. Tetanus infection in human bites however,is rare. Anaerobes were not isolated because of lack of facilities for cultures at the time this study was being done. Generally all the organisms cultured are sensitive to penicillins, septrin Erythromycin and tetracycline (Table 18) which are available in hospitals, health centres and most of the dispensaries. Therefore they should be given in initial treatment as antibiotic cover while awaiting culture and sensitivity results (25). Metronidazole can also be given for anaerobes.

CASE REPORTS

CASE NO. 1:

FIGURE 1:

FIGURE 1: A female aged 25 years. She was bitten in a fight by a girlfriend to her husband. The bite caused a pedunculated flap on the right supraorbital area. She reported to hospital 2 hours after injury. The flap looked healthy. Tetanus toxoid,analgesics, penicillins were given and surgical toilet and primary suture of the flap was done. The wound healed without infection, the flap taking,and stitches were removed after sevendays.

- Bites of the face can be treated like wounds anywhere by other causes due to good blood supply.

CASE NO. 2:

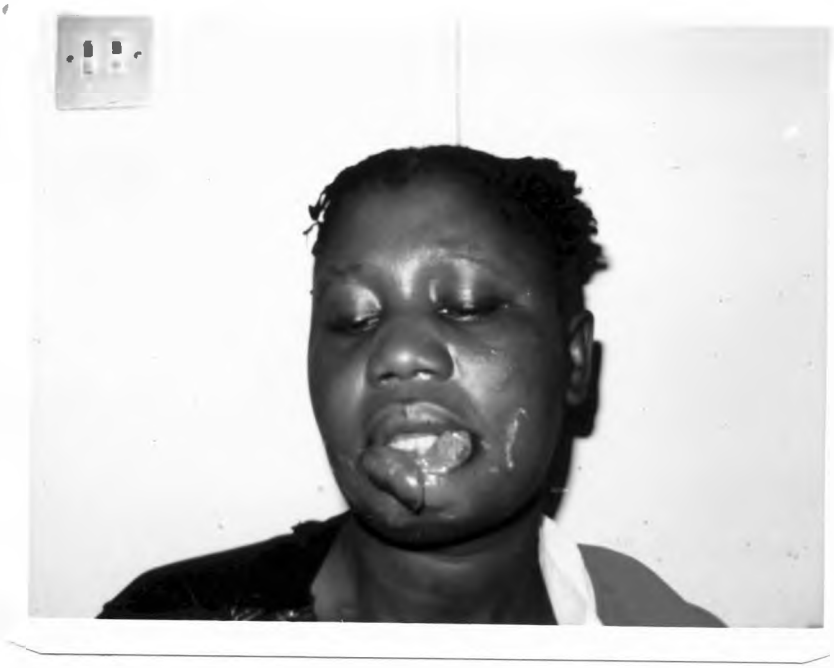

FIGURE 2:

FIGURE 2: A female aged 25 years. She was bitten after a quarrel at home by her busband on the lower lip causing a tear where all the layers of the lip were cut. She reported to hospital 4 days after injury. The wound was heavily infected. She was given Tetanus Toxoid, analgesics and Septrin tablets. The wound was cleaned and dressed. Pus swab for culture and sensitivity was taken. Four days later, she reported back to casulaty department this time being depressed since she thought that her lip would never be treated to come to normal. She even changed her name. Delayed primary suture was done. The patient did not turn up for follow up. Probably she was cured.

CASE NO: 3.

3A

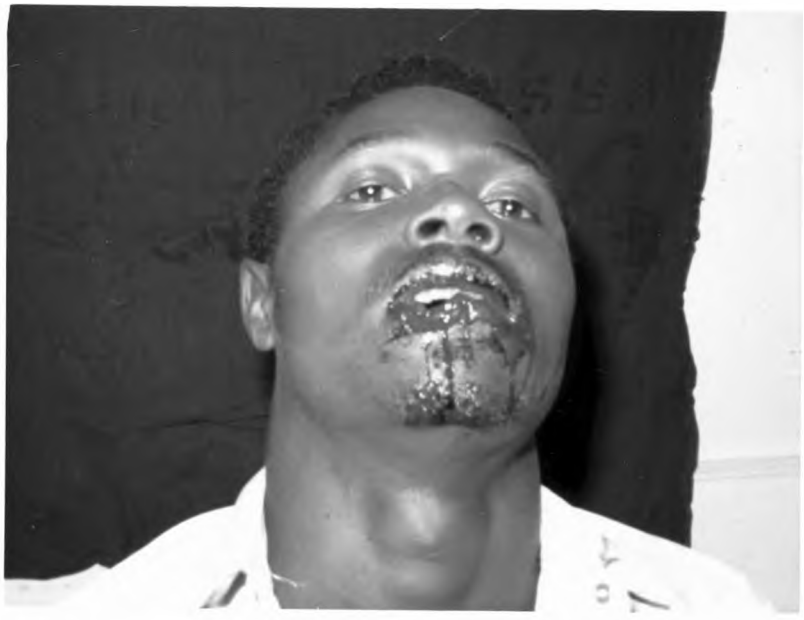

FIGURE 3 a

FIGURE 3a: A man aged 22 years was bitten by someone unknown to him, in a bar, on the lower lip-causing a deffect onit. He reported to hospital in within 2 hours after injury The wound was done surgical toilet and he was given tetanus toxoid and septrin tablets. 11 days later, there was no sepsis. Wound edges were excised and a wedge repair was done. The liphealed well with slight deformity.

3b

FIGURE 3b

FIGURE 3B A man aged 22 years. He was bitten by a man he bit (3a). He also reported within 2 hours and treated like 3a. His wound became septic and culture grew Staphylococcus aureus and Citrobacter sensitive to Ampicillin, Tetracyclines and Erthromycin. He was given Ampicillin and after 12 days there was no infection. Excesion of wound edges and wedge repair was done. The lip also healed with slight deformity.

CASE NO: 4

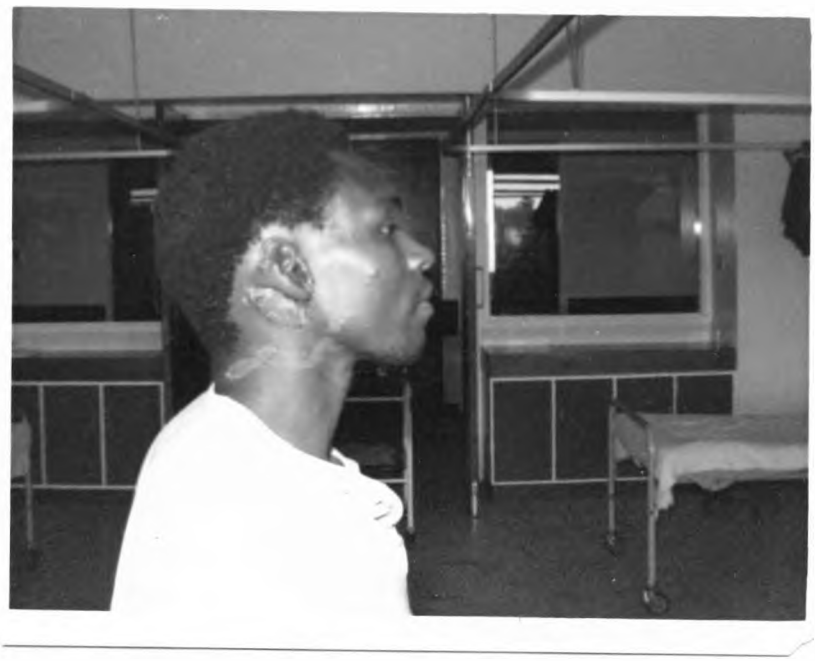

FIGURE 4.

FIGURE 4 : A man aged 27 years. He was bitten by thugs who broke into his shop. The right ear pinna was partially amputated. His assailant chewed and swallowed the piece he amputated. He reported to hospital 2 months after the injury. He was refered to Plastic Surgery Clinic where reconstruction was planned. The above picture shows the first stage reconstruction of hispinna.

CHAPTER 5:

CONCLUSIONS:

Human bite injury is a common problem in Nairobi as shown in this study. It is common among active age groups with a peak in the second decade. In Nairobi population,human bites occur equally in both sexes. The sexual distribution of attackers is also the same and most of them are adults.

The upperlimbs head and neck are the commonest sites injured and some of the wounds are deep causing a significant morbidity.

Patients with human bite injuries report to hospital early infear of the complications. Most of the accidents occur in fights and assaults by uprovoked persons. Infection is the commonest complication caused by both aerobic and anaerobic commensuals on skin and in the mouth.

Treatment of human bites should be well planned with Tetanus Toxoid,surgical toilet and delayed primary or secondary suturing. Primary suture can be done on wounds of the head where blood supply is good, and in case where tissues have to be held together like the lips, under the cover of antibioti These include penicillins, Septrin, Erythromycin and Tetracycli Plastic surgery reconstruction is indicated where these are cosmetic disfigurements.

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