

Metacarpal osteomyelitis secondary to human bite: a case report

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Abstract

The injuries resulting from Human bite are rarely seen in the clinical practice. It accounts for approximately 0.1% of injuries presenting to emergency service (1), and for about 2% of all bite wounds (2). Human bite injuries happens usually during fights and rarely occurs accidentally during sports activities. If neglected, human bites can cause serious infective complications due to the high concentration of microorganisms in the oral cavity. Wound dressing and oral antibiotics for the treatment of human bite is not an adequate method of treatment; Wound exploration, extensive debridement and adequate wash should be considered under operative condition followed by broad-spectrum intravenous antibiotics therapy. In this presentation we aimed to present a case of phalanx fracture after a human bite who received treatment for acute osteomyelitis.

Keywords: Bite; Osteomyelitis; Trauma.

INTRODUCTION

Human bite injuries can occur during real biting or in form of clenched fist bite wounds. injuries caused by clenched fist during fight are deeper than and can lead to fractures and tendon injuries when compared to bite injuries (3). In our case we presented a middle aged male patient presented with phalangeal fractures after human bite who received a successful treatment for acute osteomyelitis resulted from the bite injury.

CASE REPORT

Forty-six-year-old male patient presented to our clinic with an open wound accompanied by purulent discharge at the dorsal surface of the 5th finger of his left hand at the level of proximal interphalangeal (PIF) joint. In the first story, the Patient informed that his hand was trapped between the door a week before, and a superficial debridement performed in the state hospital he attended and later on he was discharged with oral antibiotics. 5 days later, the patient was visited our clinic complaining from a purulent discharge and continued pain at the wound site. The patient's real history revealed that the wound occurred after throwing a punch against the teeth during a fight.

In the physical examination, the 5th finger of the left hand was swollen, erythematous and associated with

purulent discharge. The finger movements was painful and limited and associated with pathological movement. The radiographs taken for area revealed a fracture in the distal part the proximal phalanx and lytic lesions were present at the distal fracture fragment (Figure 1).



Figure 1. fracture and hypodense areas shown in plain radiographic x-ray prior to the operation.

Culture material was taken from the purulent wound discharge. The lab findings showed high CRP and ESR and elevated white blood cell count. The patient was operated on the same day. Wound debridement and fixation with K-wires were done during the operation (Figure 2). The Gram stain was negative for bacteria but the dominance of leukocytes was shown. The Patient was referred to the infectious diseases clinic where intravenous cefazolin treatment started for the patient. Two days later, Staph aureus was grown from the culture samples obtained from the patient. With the progressive decrease in the amount of wound discharge, intravenous antibiotic therapy was stopped in the 3rd week and oral

Received: 01.06.2016

Accepted: 26.07.2016

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antibiotherapy started for the patient. In 4th week following the surgery, the K-wires were removed and phalanx movements started for the patient (Figure 3).



Figure 2. Osteosynthesis following debridement and fracture stabilization with k-wires.



Figure 3. 4 weeks after surgery k-wires removed and early joint movement started

DISCUSSION

The most common infectious agents following human bites are staph. aureus, streptococcus, corynebacterium and Eikenella corrodens (4). The patient must be questioned about tetanus vaccination status and tetanus prophylaxis should be administered if necessary. Because of the low probability of contamination with saliva, HIV prophylaxis is not routinely recommended (5). Hepatitis B vaccine and immunoglobulin prophylaxis should be considered if the bitten person is not vaccinated and the opposite individual is hepatitis B positive (6).

Many microorganisms present in the human mouth flora (4), for this reason every patient present with human bite injuries and those present with deep injuries broad spectrum antibiotics should be started until culture results obtained. Specimens should be taken for gram stain and culture before initiation of antibiotherapy. Wound dressing and oral antibiotics for the treatment of

human bite is not an adequate method of treatment; Wound exploration, extensive debridement and adequate wash should be considered under operative condition followed by broad-spectrum intravenous antibiotics therapy (3,7). Adequate wound wash, oral antibiotics and appropriate debridement is sufficient in patients who don't have deep injuries (8). Antibiotics should started be for patients who have bite wounds below epidermis and if injury time exceeded 12 hours (9). Serious complications such as Sepsis, cellulitis and osteomyelitis may develop in inproperly treated patients, for this purpose adequate method of treatment should be chosen for every patient presenting with human bite.

As a result; every patient presented to the emergency department or outpatient clinic with metacarpal and phalangeal open wounds and fractures, bite wounds should be kept in mind. In this regard, a deep history should be taken from the patient. It should be kept in mind that inadequately treated bite wounds in fights which happens as a result of a fist bump against a human teeth can lead to serious complications and loss of function in these patients.

REFERENCES

1. Broder J, Jerrard D, Olshaker J. Low risk of infection in selected human bites treated without antibiotics. *Am J Emerg Med* 2004;22(1):10-3.
2. Callaham M. Human and animal bites. *Adv Emerg Nurs J* 1982;4(1):1-15.
3. Tan W, Wazir N, Chiu C, Ko M. "Chronic osteomyelitis secondary to human bite: a case report." *Malaysian orthop J* 2012;6(3):40-1.
4. Iyidobi EC, Nwokocha AU, Nwadinigwe CU, Ugwoke KI. Above elbow amputation and death following human bite mismanaged by quacks: a case report and review of literature. *Niger J Med* 2012;21(2):249-51.
5. Rupprecht CE, Briggs D, Brown CM, Franka R, Katz SL, Kerr HD, et al. Center for Disease Control and Prevention. Use of a reduced (4-dose) vaccine schedule for postexposure prophylaxis to prevent human rabies. recommendations of the advisory committee on immunization practices. *MMWR Recomm Rep* 2010;59(RR-2):1-9.
6. Brook I. Management of human and animal bite wound infection: An overview. *Curr Infect Dis Rep* 2009;11(5):389-95.
7. Sbai MA, Benzarti S, Boussen M, Maalla R. "Teeth syndrome: diagnosis, complications and management. *Pan Afr Med J* 2015;28(22):71.
8. Rittner AV, Fitzpatrick K, Corfield A. Best evidence topic report. Are antibiotics indicated following human bites? *Emerg Med J* 2005;22(9):654.
9. Cartotto, RC. "Managing human bite infections of the hand. *Can Fam Physician* 1986;32:593-6.