

Dog Bite Wound: A Dilemma into the Immediate Surgical Approach

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Does immediate wound closure increase the risk of the infection in case of the dog bite injury? Such controversial question always demands a deep probe into the problem. According to one of the report of the World Health Organization (WHO), there are more than 25 million dogs in the country with the annual incident of dog bite is around 1.75 million. The number is so big that it is quite common during the training period, the surgical resident must have been encountered at least one case of dog bite wound, if not many. There always lies a dilemma in the mind of many of us.

I encountered a case of dog bite in a 48-year-old male, under alcohol influence, where more than 50% of upper lip involving the central part (►Figs. 1 and ►Figs. 2) was destroyed by a stray dog. There was always a state of dilemma in my mind that how should I proceed? However, after going through the literature. We decided to go for primary reconstruction using local flap after thoroughly cleaning the wound as there was loss of tissue and injury was fresh. Exposure prophylaxis was given to the local region. Anti-rabies immunoglobulin (20 IU/kg body weight) was administered deeply into the wound and antirabies vaccine (1 mL) was administered on days 0, 3, 7, 14, and 28 intramuscularly into deltoid muscle. Intramuscular tetanus toxoid (0.5 mL) and intravenous antibiotics were also administered. We managed to close the wound with superiorly based nasolabial flap (►Fig. 3). Patient was discharged after 5 days and the flap was healed well (►Figs. 4A and B). A prospective clinical trial reported that there was no significant difference in infection rates of animal bite wounds treated by primary closure compared with nonclosure, except in those wounds occurring to the hands.¹ The wounds over the hands showed significantly higher infection rate than the rest of



Fig. 1 Dog bite wound with significant tissue loss.

the body region. The study also noted a delay in presentation of more than 10 hours was associated with an increased risk of infection.¹



Fig. 2 Superiorly based nasolabial flap elevated.



Fig. 3 Flap inset.

Facial dog bite in addition to being an infectious emergency also poses cosmetic and functional challenges. Therefore primary closure of the wound should be considered in the first place as it promotes the primary healing when compared with the open wound.² The authors conclude that the primary closure of the dog bite wound, especially in a facial dog bite, should be considered particularly in an acute setting. For the rest of the wounds after thorough cleaning and debridement, especially hands or extremity wounds, decision should be taken depending on



Fig. 4 Follow-up image after 6 weeks.

the time of presentation that whether the surgeon should opt for a single-stage primary closure or two-stage procedure, but an attempt toward the closure should be made in all cases.

In cases of crush injuries, complete avulsion or tissue loss where primary repair is not possible, reconstruction should be considered. In superficial low-risk wounds, especially in the region of the lip, primary repair may be considered. In deep wounds or avulsion injuries, if attempt to reattach the avulsed parts is unfortunately fails, a reconstruction using flaps should be considered. In cases of those wounds which are presented late, debridement of infected or necrosed tissues often lead to the substantial tissue loss which can be difficult to repair primarily but should be reconstructed using other available options.

Conflict of Interest

None declared.

References

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