Management of penile trauma caused by a dog bite

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Background: Dog bites to the external genitalia are extremely rare. The literature shows only sporadic cases of penile injuries due to dog bites, presenting mostly as children and adolescents. 

Case presentation: We report the case of a 45-year-old patient with avulsion and traumatic de-gloving of the penile skin, with exposure of the tunica albuginea, which surrounds the cavernous bodies. Conclusion: Dog bite wounds pose a serious medical threat. An effective initial treatment of the wound, as well as adequate supportive treatments are essential for the efficient healing of the resulting infection.

Key words: dog bite, penile skin avulsion

BACKGROUND:

About 1 percent of patients presenting for treatment at the emergency services department were patients with injuries due to animal bites1. Dog bites represent 80-90% of patients, and most of these patients are male children aged 5-9 years. The most common locations were bites to the head, neck and face2. However, dog bites to the external genitalia are extremely rare. The literature shows only sporadic cases of penile injuries due to dog bites, presenting mostly as children and adolescents3-6. Such bites can compromise the aesthetic and functional integrity of the external genitalia. The adverse consequences of the bite can be very difficult to deal with. The most common being infection, followed by septic arthritis, osteomyelitis, loss of extremities, compartment syndrome, and even death7.

In the United States, about $ 200 million is spent each year to treat patients with dog bite wounds8. In addition, there is no standardized protocol yet recognized for the treatment of this condition.

CASE REPORT

We report the case of a 45-year old patient with avulsion and traumatic de-gloving of the penile skin, with exposure of the tunica albuginea, which surrounds the cavernous bodies. Penile skin avulsions vary from simple lacerations to virtual amputations9. Lesions usually reach just the skin, causing bleeding with damage to the spongy body, the cavernous bodies or testes10.

A 45-year old homeless gypsy was seen at the emergency center in May 2008 suffering from trauma to the external genitalia in result of a dog bite. We examined the patient, and found penile de-gloving with preservation of the internal preputial layer. The patient also presented with a right hydrocele. At the emergency room, a total avulsion of penile and scrotal skin was detected. The skin presenting the avulsion had remained fixed to the penis through a pedicle formed by a flap in the corporal spongiosum, with good aesthetic and functional results.

Three months after the final procedure, the patient recovered regular sexual activity. However, he reported painful erections due to tension and cicatricial retraction of the grafted skin. Seven months following the incident, the patient underwent re-sectioning of the free graft scars. The bleeding area of the penis was covered by rotating the well-vascularized skin from the penis and scrotum, with good aesthetic and functional results. During the same procedure, a right orchiepexy was performed. The remaining scrotal skin was well vascularized and...
elastie, and the testis could be properly housed within the scrotum (Figure 2).

**DISCUSSION**

Upon receiving a patient with wounds to the external genitalia as well as any additional body parts, it is wise to commence with the proper surgical measures, known for being the cornerstone of treatment. Extensive debridement of the area is necessary, using an assortment of correlated biological solutions and antiseptic agents. This meticulous initial treatment prevents up to 80% of infections and other complications. Between 4 and 25% of bite wounds are infected, and empirical antibiotic therapy must be directed towards the treatment of a Pasteurella species, which is present in the oral flora of canines. For this purpose, amoxicillin with clavulanic acid is administered. Patients allergic to penicillin may undergo alternative treatment with Clindamycin, Ciprofloxacin, or Bactrim, for a duration of 5-7 days.

Tetanus and rabies are major threats that should be accounted for when dealing with animal bites. Patients who have not been immunized against tetanus in the past 5 years should be subjected to adequate immunization. Rarely, rabies may occur. Following protocol, the animal suspected of transferring this deadly complication should be tracked, and behaviour thoroughly assessed. Primary closure of the wound as well as reconstructive procedures are usually possible, and provide sufficient aesthetic and functional results.

**CONCLUSIONS:**

Dog bite wounds pose a serious medical threat. An effective initial treatment of the wound, as well as adequate supportive treatments are essential for the efficient healing of the resulting infection. Reconstructive surgery poses an ongoing challenge, but is pertinent in the treatment of aesthetic and functional disorders resulting from animal bites to the genitalia.

**SUMMARY**

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**REFERENCES:**


