

**SEVERE AND EXTENSIVE BITE WOUND ON A FLANK AND ABDOMEN
OF AN IRISH WOLF HOUND TREATED WITH DELAYED PRIMARY
CLOSURE AND VETGOLD**

PRESENTATION & HISTORY

A three-year-old male neutered Irish Wolf Hound weighing 64kg presented with a severe and large bite wound on the left flank and left abdominal area. The wound measured 40x15 cm across the left abdomen including some of the inguinal area and the craniomedial thigh. The dog was bitten by a Grey hound while in the park and was presented to our veterinary practice an hour later.

CLINICAL EXAMINATION & INVESTIGATION

The dog was distressed, panting and restless. He had slight pale mucous membranes and had tachycardia. The wound appeared fresh and very traumatic with large tissue deficit. A large degloving injury emerged and it was unclear as to the future of this large flap of skin. No other pathologies were noted apart from the large wound.

PROBLEM LIST/ DIFFERENTIAL DIAGNOSIS

Traumatic wound with large deficit

Cardiovascular compromise

Risk of sepsis without prompt treatment

PRE-OPERATIVE MANAGEMENT

Fluid therapy was initiated using ringer's lactate solution at 90ml/kg/hr for the first 15 min then 10ml/kg/hr. Clavulanic/Amoxicillin antibiotic was given 20mg/kg IV and the wound was protected temporarily with a dressing. After an hour the dog was sedated for a close inspection, cleaning, debridement and irrigation of the wound.

The large skin flap was suture in place trying to preserve as much skin as possible. After several days the true extent of the injury was evident and the wound was managed as open wound with initial surgical debridement and daily irrigation. Enterococcus caecofaecalis was cultured from this wound. The wound was managed until negative culture and no necrosis seen. The antibiotic was replaced to Enrofloxacin and Metronidazole based on culture and sensitivity. The wound size was reduced substantially and healthy granulation bed was evident.



Wound appearance two weeks post-initial injury. This was managed with daily irrigation and tie-on bandage.

SURGICAL PROCEDURE

Ten days post initial presentation the wound bed allowed closure. The vast skin deficit was closed using a sub-dermal plexus rotational skin flap.



Postoperative image: delayed primary closure using sub-dermal plexus rotational flap.

POST-OPERATIVE CARE

The distal aspect of the flap dehisced three days post surgery, and the flank area became open, due to excessive motion and self-mutilation. This was managed as an open wound with regular irrigations and VetGold for few days. A second delayed closure was planned for the following week, utilising an axial pattern flap from the

caudal superficial epigastric artery. VetGold was continued TID over the weekend and the wound was protected from self-trauma.



Wound appearance before the weekend with reasonable granulation and very little epithelization.

POST-OPERATIVE OUTCOME/COMPLICATIONS

When the wound was examine early the following week it was evident that most of it healed in an unusual rate and that the pre planed skin flap would not be needed any more and that this wound would continue to heal as an open wound.



Wound appearance three days later. Health granulation bed, strong wound contraction and advanced epithelization.

FOLLOW-UP

The dog was discharged with VetGold applied BID. The wound healed completely after two weeks.

DISCUSSION

Bite wounds are often misleading when presented shortly following the incident. The nature of this injury is very traumatic than is hiding vast tissue compromise and infection. It is well established that these wounds should be dealt open until the true extent of the lesion determined. In most cases of these large wounds infection would be present and need to be dealt with before final closure. In this case the large skin flap did not survive despite its initial healthy appearance. Enterococcus infection was present most likely harboured in the attacking dogs teeth.

The last 10-15% of the skin flap used to closed the ready wound, was dehiscenced mostly due to movement at the flank area and self mutilation as the dog managed to reach the wound despite its protection. The distal part of a sub-dermal plexus flap is the most vulnerable and proved to be unreliable in this case.

The edge of the flap became necrotic and was cleaned. VetGold was applied for about a week until the wound was inspected prior to a second skin flap for closure. Due to the rapid wound contraction and healthy granulation bed it was decided to allow the wound to heal as an open wound. This would reduce costs substantially, eliminate the necessity of anaesthesia and reduced total hospitalisation time.