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Rubber band syndrome in a pup: An unusual case report

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Abstract

Rubber band syndrome is an uncommon condition observed in veterinary practice. A four month old pup was presented with history of limping of left fore-limb for past 20 days. On clinical examination, circumferential wound was observed just below the left fetlock with diffuse swelling above and below the wound. Thorough examination of wound revealed rubber band causing compression at the wound site. Under local anaesthesia the foreign body (rubber band) was removed and regular wound dressing was carried out at 24 hours interval. Proper wound care and timely surgical intervention made an uneventful recovery.

Keywords: Pup, rubber band, foreign body

Introduction

In animals, rubber band syndrome is an uncommon condition. Rubber bands were widely used for package of food items and in therapeutic medicine for emergency hemostasis tourniquet, orthodontic treatment and umbilical cord clamping (Boonwittaya and Kaewmanee, 2019) [1]. Generally, rubber bands are applied around the neck, fetlock joint of pups as cosmetic to enhance beauty. The rubber bands gets hidden within the skin creases if left unnoticed.

The presence of rubber band for prolonged period exert painless pressure leads to constriction of blood vessels and gradually develops into wound which later results in necrosis of particular tissue and loss of function (Corazza *et al.*, 2002) [3]. Forgotten application of rubber band develops into critical wound if left undiagnosed and literatures available in veterinary practice also limited. This present paper explains about the successful retrieval of rubber band under local anaesthesia in a pup.

Case History and Treatment

A four month old male non-descript pup was presented with the history of limping of left fore-limb with wound below the left fetlock region for the past 20 days. On examination, circumferential wound was observed just below the left fetlock with diffuse swelling above and below the wound. Animal evinced severe pain on palpation of the wound. Clinical examination revealed necrotic wound margins with purulent discharge. Radiographic examination revealed no abnormalities in hard tissue except the present soft tissue swelling. Animal was restrained in right lateral recumbency, wound was flushed with normal saline and the necrotic wound edges were debrided mechanically using sterile gauze. Thorough clinical examination of wound revealed rubber band causing compression at the wound site (Fig. 1). Topical Lignocaine (2%) gel was applied over the wound and the rubber band was removed manually after cutting the loose portion of the rubber band. After that the wound was thoroughly flushed with 1% povidone iodine solution and collagen based ointment was applied for better healing. Magnesium sulfate, glycerin and povidone iodine paste was smeared on the edematous area and soft bandage was applied to provide adequate support and immobilization of wound margins. Antibiotic ampicillin and cloxacillin at 10 mg per kg and analgesics prednisolone 0.5 mg per kg and tramadol at 4 mg per kg were administered continuously for seven days. Regular wound dressing was carried out at 24 hours interval. The animal started weight bearing on the affected limb with complete reduction of limb edema from day three onwards. Complete healing of wound was observed within 10 days after removal of the foreign body. Proper wound care and timely surgical intervention made uneventful recovery.

Discussion

This syndrome is also termed as hair-thread tourniquet syndrome, ischemic hair syndrome and

acquired constriction ring. The syndrome is mostly observed in infants less than 6 months (Smith *et al.*, 2003) ^[5]. Similarly in the present case also four month puppy was affected. In humans, literature suggested that rubber band syndrome was rare condition due to circumferential placement of the forgotten rubber band in various parts of body for longer period (Whitaker *et al.*, 2013; Meier *et al.*, 2019) ^[7, 4]. Anamnesis of the present case revealed that kids applied commercial rubber bands for beauty purpose in the limbs of the pup and left unnoticed. This could be the possible cause for the rubber band syndrome in the present case. The rubber band gets hide into the skin creases and as the age advances it start producing problem because of the increase in diameter of the limb and compression caused by the rubber band. In human patients etiology was found to be human hair or thread encircled around one or more digits (Smith *et al.*, 2003) ^[5]. In the present case rubber band was the etiology to cause wound and the similar findings were recorded in dogs (Boonwittaya and Kaewmanee, 2019) ^[1] and in cats (Brisson and Theoret, 2008) ^[2].

Constriction caused by the tourniquet blocked the drainage resulted in edema and reduced blood supply led to ischemia of the affected part (Corazza *et al.*, 2002) ^[3]. The tension created by the band causes compression and penetrated the skin with gradual entry into the underlying soft tissue. Because of better regeneration capacity of the skin, wound created by the rubber band heal superficially with burial of rubber band inside the wound and made it invisible outside the skin with presence of sinus tract. The embedded band can damage the associated structures results in potential life threatening complications, if unnoticed. In the present case absence of damage to hard tissue structures was observed, but in cat rubber band induced osteomyelitis was reported by Brisson and Theoret (2008) ^[2]. Complications of rubber band syndrome depend on the extent of the damage to tissue structures and blood flow (Corazza *et al.*, 2002) ^[3].

Stelmach *et al.* (2014) ^[6] reported computed tomography as a better diagnostic aid in diagnosis of circumferential cervical rubber band foreign body in dog than plain radiography since it provided three dimensional image for diagnosis. In the present study plain radiography was found satisfactory to diagnose and asses the involvement of associated structures in the affected area.

Boonwittaya and Kaewmanee (2019) ^[1] recommended removal of foreign body under general anaesthesia. In the present case application of lignocaine gel provided adequate anaesthesia until removal of foreign body. Since the foreign body was visible outside and not fully adhered with nearby tissues facilitated easy removal of foreign body under local anaesthesia.



Fig 1: Presence of Rubber band

Conclusion

From the above findings of the present case and other literatures recorded in veterinary practice, it can be concluded that rubber band syndrome is quite uncommon in animals. Anamnesis, proper clinical examination, removal of etiology along with adequate immobilization resulted in uneventful recovery.

References

1. Boonwittaya N, Kaewmanee S. Rubber band syndrome in a dyspneic dog. *Thai Journal of Veterinary Medicine* 2019;49:377-383.
2. Brisson BA, Theoret MC. Osteolysis of the radius and ulna induced by a circumferential foreign body in a cat. *Journal of the American Veterinary Medical Association* 2008;233:1117-1120.
3. Corazza M, Carla E, Altieri E, Virgili A. What syndrome is this? *Pediatric dermatology* 2002;19:555-556.
4. Meier R, Haug L, Surke C, Mathys L, Vogelin E. Acquired constriction ring: a case of rubber band syndrome. *Pediatric emergency care* 2019;35:113-115.
5. Smith AM, Peckett W, Davies M. Acquired constriction ring syndrome. *Foot and ankle international* 2003;24:640-641.
6. Stelmach D, Sharma A, Rosselli D, Schmiedt C. Circumferential cervical rubber band foreign body diagnosis in a dog using computed tomography. *The Canadian Veterinary Journal* 2014;55:961-965.
7. Whitaker J, Dempsey M, Mosahebi A. Elastic band, friend or foe? A case of digital amputation following accidental elastic band application and a review of the literature. *Emerg Med* 2013;3:149-151.