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Management of large subcutaneous abscess in a dairy cow

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Abstract

This case report describes successful management of the abscess in lower hind limb in a 5-year-old dairy cow. Clinical examination revealed weight-bearing lameness of the affected limb with swelling and pain on palpation. Large pus filled mass hot and soft in consistency with inflammatory signs was diagnosed. Animal was successfully treated by regular drainage of pus along with daily antiseptic dressing of povidone iodine and parenteral administration of antibiotics (tetracycline for 4 days, then ceftriaxone for 8 days). The cow successfully recovered after two weeks without any other complications.

Keywords: Abscess, antibiotics, cow, pus

Introduction**Case History and Observation**

A 5-year-old cow, with a large mass in lower hind limb was presented for treatment. Clinical examination revealed mass was hot, soft in consistency but painful to touch. Animal was anorectic and feverish for few days. Rest all other vital parameters were within the normal range. Centesis of the mass revealed large pus filled cavity. Abscess, thus diagnosed was drained and treatment was initiated.

Management of the case

The dependent area of abscess swelling in the latero-medial aspect of the lower hind limb was prepared. The animal was cast and restrained in lateral recumbency. After preparing the proposed site of incision, an incision (3.0 cm) with a disposable sterile scalpel was made around the tip of the abscess. Large quantity of pus was drained and cavity filled with dilute (0.5%) povidone iodine. The cavity was then every time packed with gauze soaked in povidone iodine (5%) with a seton protruding out of the incision to allow pus drainage. The animal was given antibiotics (Inj. Tetracycline 10 ml, OD, IM for 4 days then Inj. Ceftriaxone 2 gm, BD, IM for 8 days) and analgesic (Inj. Melonex, 10 ml, IM for 4 days). Abscess was drained and dressed daily for 2 weeks (Fig-1). The cow successfully recovered after 14 days without any other complications.

Discussion

Proper drainage of pus from the abscess area is important as antimicrobial drugs are usually ineffective without drainage as been reported in the available literature (Smith, 1971) [3]. Abscess is the collections of pus in confined tissue spaces, usually caused by bacterial infection and the most common is *Staphylococcus aureus* bacteria (Blood *et al.*, 2007). Organisms may enter the tissue by direct penetrating trauma with a contaminated object, dissemination via lymphatic or hematogenous routes from a distant site. Abscesses may begin in an area of injury or in compromised tissue where leukocytes accumulate. Progressive dissection by pus or necrosis of surrounding cells expands the abscess (Blood *et al.*, 2000). In present case, trauma was visible over and within the vicinity of the abscess, hence it could be speculated that the causative organism not isolated during the present case could have gained access either through haematogenous or lymphatic route. The animals at the farm are housed on concrete floor sheds, therefore sometimes prone to limb trauma. The compromised area thus could have become seat of predilection for the infective organism. Various factors which predispose for abscess formation may be, impaired host defense mechanisms, presence of foreign bodies, obstruction to normal drainage (eg, in the urinary, biliary, or respiratory tracts), tissue ischemia or necrosis, hematoma (Kofler *et al.*, 2004) [2]. The symptoms and signs of cutaneous and subcutaneous abscesses are pain, heat, swelling, tenderness, and redness and these findings are reported (Stephen and Edward, 2010) [5]. Similarly for deep abscesses, local pain, tenderness and systemic symptoms, especially fever, anorexia and weight loss, are

common findings (Thorat *et al.*, 2008) [6]. Diagnosis of cutaneous and subcutaneous abscesses is by physical examination and that of deep abscesses often requires imaging/ ultrasonographic examination. Superficial abscesses

may resolve with heat and oral antibiotics. However in case of subcutaneous or deeper abscesses, healing usually requires regular surgical drainage and using antibiotics until completely resolved (Radostitis, 2007) [4].



Fig 1: Drainage of abscess in a cow-hind limb

Conclusion

Based upon this study, it could be concluded that at field or farm level, successful management of subcutaneous abscess in cattle can be achieved by proper/regular drainage of the pus followed by antiseptic gauze packing to allow drainage of pus so that the parental administration of antibiotics is effective.

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