

*Case report***Surgical management of large subcutaneous abscess by using seton in a dairy cow- A case report***Sreekanta Biswas, Sabiha Zarin Tasnim Bristi, Thomby Paul and Bibek Chandra Sutradhar**

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ABSTRACT

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A one-year-old female 350kg Holstein Friesian crossbreed dairy cow was referred to the SAQ teaching veterinary hospital, Chattogram Veterinary and Animal Sciences University. The complaint was recorded as gradually swelling the right fore limb elbow area and formed a large mass from the last four weeks. On clinical examination the cow had pyrexia, mild dehydration and the elbow with knee joint of right fore limb had swelling and pain on palpation. Weight bearing lameness with large pus filled mass with inflammatory sign diagnosed on the affected limb through an aseptic needle aspiration. On the basis of clinical history, clinical examination and subcutaneocentesis, the case was diagnosed as subcutaneous abscess. A surgical operation was decided to correct the subcutaneous abscess. The animal was successfully treated by evacuating the pus and washed out with povidone iodine impregnated gauze. Seton was placed into the cavity for preventing secondary closure and facilitating the drainage of pus and allowed for epithelialization and heal from the inside and parenteral administration of antibiotics, antihistaminic, NSAID. The cow successfully recovered after two weeks without any other complication.

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1. INTRODUCTION

An abscess is a circumscribed cavity containing purulent exudates 'pus' encompassed by a pyogenic membrane. Sometimes it may be confused with a cyst, hematoma, tumor, inflammation and hernia (Tyagi and Singh, 2012). Different types of abscess are commonly named according to their anatomic location like

pharyngeal, submandibular, retroperitoneal, hepatic, splenic, pulmonary, cerebral and subcutaneous abscess (Constable et al., 2017). Solitary abscess is more common in cattle and buffaloes (Thorat et al., 2008). The present case report describes a case of subcutaneous abscess in a cow and its surgical management.

2. CASE PRESENTATION

2.1. Case history and observations

A one-year-old female 350kg Holstein Friesian crossbreed dairy cow was referred to the SAQ teaching veterinary hospital, Chattogram Veterinary and Animal Sciences University because of gradually swelling the right fore limb elbow area and formed a large mass from the last four weeks. Clinical history revealed the cow was anorexic from last two weeks. On clinical examination, the cow had pyrexia (Temp. 103.5°F), mild dehydration and found big mass on elbow and knee joint of the right fore limb, which was hard in consistency and pain on palpation. Pus found from the mass on needle aspiration. On the basis of clinical history, clinical examination and centesis, the case was diagnosed as a case of subcutaneous abscess. Eventually, a surgical management was decided for complete removal of the pus to relieve the patient from this condition.

2.2. Clinical management and treatment of the case

The lateral part of the right elbow and knee joint was prepared by clipping and shaving of hairs followed by application of antiseptic solution (10% povidone iodine followed by 70% ethanol). The cow was tranquilized by injecting xylazine HCl @ 0.02 mg/kg body weight intramuscularly. After tranquilization of the cow, a stab incision was made over the swollen part of lateral elbow joint and in the knee joint site. Approximately 500ml of pus was evacuated from the mass followed by blunt dissection with scissor to expose the cavity. Then the cavity

washed out with povidone iodine (5%) impregnated gauze and place seton (seton is a gauge or tape smear dipped in antiseptic solution like povidone iodine passed through the eye of the seton needle and carried through the openings patent. The seton is changed each day after cleaning the abscess cavity) into the cavity for preventing secondary closure and facilitating the drainage of abscess and allow for epithelialization and healing from the inside to out. After removal of all pus from both swollen site, a pressure bandage was used on the affected area. Postoperatively, dressing was performed at 2 days interval with gauze soaked povidone iodine (5%). Parenteral antibiotic streptopenicillin (streptopen®, Renata Pharmaceuticals Ltd) @ 1ml/10kg body weight intramuscularly at 24 hours interval for 7 days, antihistaminic pheniramine maleate (Alerin®, Eskayef Pharmaceuticals Ltd.) @ 0.5mg/kg body weight administered intramuscularly at 24 hours interval for 7 days and ketoprofen (kop-vet®, Square Pharmeaceuticals Ltd.) @ 3mg/kg body weight intramuscularly at 24 hours interval for 3 days as non-steroidal anti-inflammatory along with few advices to the owner for providing soft bedding and restricted movement to enhance the healing of the affected site.



Figure 1: Subcutaneous Abscess at the elbow and carpal area



Figure 2: Drainage of pus after stab incision in the abscess



Figure 3: Use of seton to facilitate the drainage of fluid



Figure 4: Applied pressure bandage to prevent further accumulation of pus enhancing drainage system by seton



Figure 5: Gradual improvement of the swelling and the cow could walk



Figure 6: The wound completely healed at 14th day

2.3. Follow-up

On the 14th day, the cow completely recovered. The both side of the wound completely healed and started walking properly.

3. DISCUSSION

Abscess is an inflammatory condition, which consist of pus in a circumscribed area caused due to bacterial infection most commonly by *Staphylococcus aureus* (Blood et al., 2007). Most localized infection starts as penetrating wounds of the skin and it can be metastatic implantation carried by blood or lymph is the most common cause (Constable et al., 2017). Accumulation of pus at the injury site and necrosis of the tissues form the large abscess (Blood et al., 2000). Accurately evacuation of pus from the abscess cavity is needed along with antimicrobial drugs (Thorat et al., 2008).

In the present study, there was a history of trauma previously and the cow was housed on concrete floor with fence made of steel, which is prone to limb trauma. The cow presented with swelling, pain, redness, hot surface including at the elbow and knee joint area of fore limb, which are the symptoms and signs of cutaneous and subcutaneous abscesses (Stephen and Edward, 2010).

The subcutaneous abscesses can be diagnosed by the physical examination, where deep abscesses often needed imaging and ultrasonographic examination. The subcutaneous abscess requires daily dressing with antimicrobial drugs parenterally for complete recovery of the affected site (Radostitis et al., 2007, Tiwari et al., 2011).

4. CONCLUSION

Successful surgical management of subcutaneous abscesses can be done in the field level with regular dressing of the affected site followed by gauze packing and pressure bandage to facilitate the drainage of pus. To fasten the recovery of the affected site parental administration of antimicrobial drugs is also effective.

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