SHORT COMMUNICATION

Radical Unilateral Mastectomy for Fibrosed Gangrenous Udder in a Lactating Goat

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Mastitis reflects the inflammation of the mammary gland, which may occur due to any bacterial infection secondary to teat injury or poor management (Marogna *et al.,* 2010). Radical mastectomy (unilateral or bilateral) is a salvage procedure and indicated in cases of chronic suppurative mastitis, gangrenous mastitis and neoplastic or hyperplastic conditions of the udder (Andreasen *et al.,* 1993; El-Maghraby, 2001; Canle *et al.,* 2004). Gangrenous mastitis is a peracute form of mastitis, characterized by necrosis of the udder tissue, caused by alpha-toxins (Smith and Sherman, 2009). Physical examination of the udder is characterized by discolored (blue- blackish or blue-greenish) and cold udder (Ribeiro *et al.,* 2007). Gangrenous mastitis is one of the most difficult forms of mastitis to be treated (Bloway, 1993), and in very severe cases, gangrene may lead to toxemia and loss of animal life (Ribeiro *et al.,* 2007). Unilateral or bilateral mastectomy is recommended as a pain-relieving procedure for extensive lesions involving udder and in cases of chronic mastitis, gangrenous lesions, or neoplasia (Canle *et al.,* 2004). The present case report describes unilateral mastectomy for the management of incurable extensive fibrosis of udder while allowing the other mammary gland to continue lactation.

Case history and observations

ASirohi goat of 5 years of age weighing 30 kg was presented at Veterinary Clinical Complex with the history of an extensively enlarged left quarter of udder with black discoloration for 1-month after a laceration wound treated unsuccessfully by a paravet. Palpation of the left quarter of the udder revealed it to be swollen, hard, and cold to touch with dried skin, which appeared to be peeling off, indicating gangrene with no milk flow, while right teat was healthy with normal milk production. The overgrown udder was causing the problem to the goat while walking. Otherwise, the animal was healthy. Clinical examination revealed respiratory rate, heart rate, and rectal temperature within the normal physiological range.

Surgical treatment and discussion

The animal was withheld feed and water for 24 hours and 12 hours, respectively. The whole udder was cleaned, shaved, and prepared for aseptic surgery. Surgery was performed under mild sedation using diazepam @ 0.2 mg/kg and local infiltration with 2% Lignocaine HCl. The animal was restrained in right lateral recumbency. An elliptical skin incision was made around the base of the left mammary gland. The affected udder was carefully separated from the healthy udder and abdominal wall with blunt dissection. The external pudic artery and vein, perineal artery, and large subcutaneous veins were isolated and doubly ligated with Chromic Catgut No. 1. All of the mammary tissue and lymph nodes were removed. After total removal of the left mammary gland, the subcutaneous tissues were sutured with Catgut No. 1 in a simple continuous suture pattern, and the skin was sutured with non-absorbable black braided silk in horizontal mattress pattern. The animal recovered from anesthesia within 20 minutes after surgery. Postoperative care included Ceftriaxone (20 mg/kg) and Meloxicam (0.2 mg/kg) for 5 and 3 days, respectively. The antiseptic dressing was performed topically to the surgical site once a day for one week. The goat was fully recovered one week after the surgery. After 12 days, a goat was presented to the clinic with complete uneventful

Fig 1: Fibrosed left a quarter of udder due to gangrenous mastitis

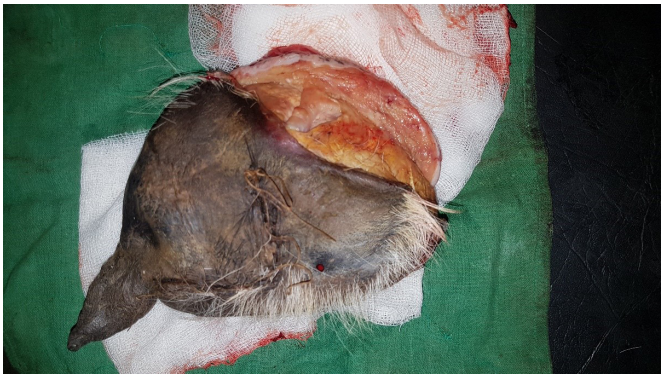

Fig. 2: Radically excised fibrosed mass

Fig. 3: Skin closed with a horizontal mattress pattern

recovery. Surgical wound was completely healed, and skin sutures were removed on the 12th postoperative day, and no complication was observed regarding the surgical wound. Another (right) teat exhibited normal milk.

The present case report was to establish the surgical approach of unilateral mastectomy to treat gangrenous mastitis in goats as an alternative to medical treatment with antibiotics or supportive therapy, both of which have reportedly limited value (Bezek and Hull, 1995). Radostits *et al.* (2000) opined that the exhaustive therapeutic measure alone is not effective for the treatment of gangrenous mastitis unless early surgical removal of the affected quarter is undertaken, which is the only standard treatment for gangrenous mastitis in ewes (Canle *et al.*, 2004). In the current case, unilateral mastectomy was performed even though it was reported to be more difficult than bilateral mastectomy (El-Maghraby, 2001) because this method will allow the other mammary gland to continue lactation. Overall, the success rate and client satisfaction make the unilateral mastectomy, a viable alternative treatment of goats with gangrenous mastitis.

It is concluded that radical unilateral mastectomy as a salvage procedure can be a viable alternative to save the life of the goats with fibrosed and gangrenous udder and to retain lactation in the normal, unaffected udder quarter.

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