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A Case Report

Invasive surgery for removal of teat obstruction in a doe

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ABSTRACT

A case of intermittent milk flow obstruction of the left teat in a 3-year-old lactating doe caused by an air gun pellet is described. Open surgery was used to remove the pellet through an incision on the lateral side of the quarter at the region of the gland sinus.

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Key words : Doe, Teat obstruction, Air gun pellet

Teat obstructions are usually recognized when they interfere with milk flow. They can range from diffuse, tightly adherent lesions to highly mobile discrete lesions that move freely throughout the teat and gland sinus. They are either congenital or acquired, resulted from trauma or infection, causing either partial or complete teat obstruction (Johnson, 1988; Steiner, 2004). Teat obstruction can be caused by stenosis of the teat orifice (hard milker), floating or attached pea, imperforated teat, tight streak canal, atresia of the teat cistern, or teat base membrane obstruction (Brightwell, 1969; Horney, 1984; Ducharme *et al*., 1987; Johnson, 1988; Steiner, 2004; Weaver *et al*., 2005).

Teat obstruction results in a decrease or complete absence of milk flow (Ducharme *et al*., 1087; Johnson, 1988). Economic loses can be attributed to decreased or loss in milk flow and prolonged milking time which leads to additional trauma to the teat (Steiner, 2004). The present case report describes an unusual cause of teat obstruction and describes the surgical procedure for removing it.

Case report:

A 3 years old healthy lactating doe was admitted to the Surgery Department of Faculty of Veterinary Medicine of Duhok University, Iraq, with a history of intermittent disruptions in milk flow of the left teat of 7 days duration.

Palpation of the left teat revealed the presence of a firm object moving freely in the teat sinus. Radiography was not available, therefore, the tentative diagnosis was teat obstruction by a lactolith.

Surgical procedure:

The doe was restrained in lateral recumbency with the left side uppermost. The left quarter and teat was prepared aseptically and scrubbed with povidone iodine.

Because the size of the object was larger than the teat orifice, all the attempts to remove the object by milking it through a forced pressure applied downward on the teat sinus or by crushing the object via a small forceps introduced into the teat canal failed and stopped to avoid irreparable damage of the teat orifice.

Invasive or open surgery was done to remove the object; the object was milked upward, pushed and fixed against the skin on the lateral aspect of the gland sinus of the left quarter. Under local infiltration anesthesia with 2 per cent lidocaine hydrochloride (EXCEL Lifescience LTD. London. UK) and following draping of the surgical field, about 3 cm long vertical incision was made directly over the object, penetrating the gland sinus. A small pointed air gun pellet was removed from the site (Fig. 1, 2 and 3). No intraoperative bleeding was found.

The wound was closed by a three layer closure (the

Fig. 1: Incision of the lateral side of the left quarter at the area of the gland sinus.

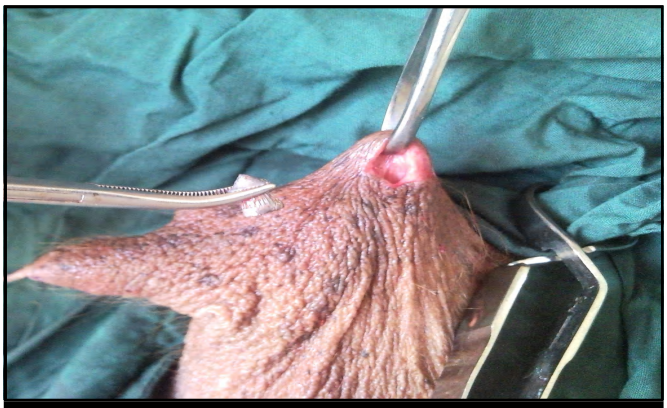

Fig. 2: Open surgery on the lateral side of the left quarter for removal of the air gun pellet.

Fig. 3: Air gun pellet removed from the teat sinus

mucosa, the intermediate layer, and skin layer closure). The mucosa and the intermediate layer were apposed separately with simple continuous pattern with 2-0 polyglycolic acid (SURGICRYL®. SMI. Hünningen-Belgium) with a taper pointed needle; the skin was closed with simple interrupted suture with 1-0 silk (NOVA, CHINA).

Intra-mammary infusion (MELTJET, ASHISH LIFE SCIENCE, PVT. LTD. Mumbai-India) of antibiotics (Ampicillin sodium, 75 mg and cloxacillin sodium, 200 mg) and intramuscular injection of penicillin (10mg/kg B.W) and streptomycin (10mg/kg B.W) (Strepcillin. The Arab Pesticides and Veterinary Drugs. Mfg. Co., Jordan) was administered after the operation. Topical oxytetracycline aerosols spray (OTC-Vetaque. Tehran-Iran) was applied (Fig. 4) and the wound was protected by adhesive tape.

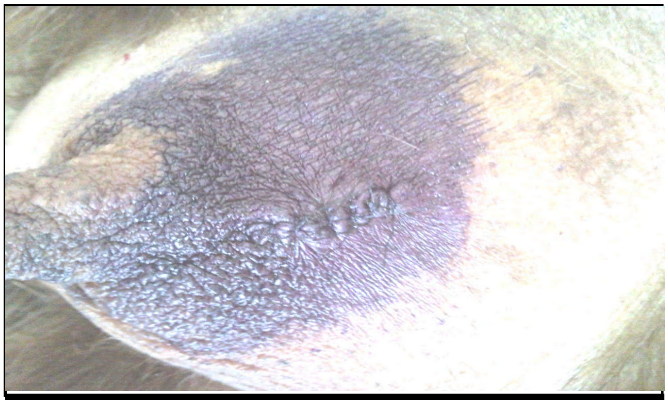

Fig. 4: Closure of the wound and application of antibiotic spray

The left quarter was then carefully inspected to detect any wound caused by the entrance of the pellet. A small rounded wound surrounded by a rough skin was found on the anterior lower part of the quarter (Fig. 5). The wound was examined carefully and squeezed, it was healed and no milk came out from the wound.

Fig. 5: A small rounded wound was found on the anterior lower part of the left quarter.

Postoperative care included administration of intra-mammary infusion and systemic antibiotics for 4

successive postoperative days, wound dressing, and removal of the skin stitches 10 days postoperatively.

Many of the injuries caused by air gun pellets are misdiagnosed as vehicular trauma or bite wounds. They are common incidental findings on radiographs. It could result from hunting accidents or deliberate abuse (Pavletic, 1985a).

Air gun pellets do not produce extensive tissue trauma. These pellets can travel as fast as bullets, but they are weaker and often lose their velocity faster due to their shape and lighter weight. They rapidly decelerate over relatively short distance as a result of air resistance. They slow down further on impact with the elastic skin and its penetration often is limited to the hypodermis and underlying musculature (Pavletic, 1985b; Pavletic, 1986; Pavletic, 1992).

In the present case, the animal was wounded without his owner knowing. The pellet had a small entry into the left quarter penetrating the udder and retaining in the teat sinus without causing teat fistula or any extensive tissue damage.

In this case, and instead of thelotomy, in which the teat sinus is surgically opened to provide access to tumors, polyps, membranes, lactolith, or other obstruction to milk flow (Johnson, 1988), the gland sinus was surgically opened to preserve continuity of the teat, protecting it from wounding and to allow the owner to milk the teat manually because passive milking by plastic teat cannulas was not available in our clinics and also there will be no harm on the wound if the teat is sucked accidentally by the doe's kid during the period of wound healing.

No complications, like bleeding and wound dehiscence were observed when the gland sinus was opened and complete healing of the wound was obtained without affecting normal milk flow.

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