



International Journal of Veterinary Sciences and Animal Husbandry



ISSN: 2456-2912

NAAS Rating (2026): 4.61

VET 2026; 11(2): 605-607

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www.veterinarypaper.com

Received: 15-11-2025

Accepted: 19-12-2025

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Surgical management of carpal cyst in a goat

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DOI: <https://www.doi.org/10.22271/veterinary.2026.v11.i2g.3078>

Abstract

A one-year-old non-descript male goat was presented with a soft, fluctuating, non-painful swelling over the left carpal joint of gradual onset. The animal showed no systemic illness. Clinical examination revealed physiological vital parameters were in normal range. Based on history and clinical presentation, a diagnosis of carpal cyst was made. The goat was premedicated with Inj. Meloxicam and Inj. Ceftriaxone, and prepared for surgery under general anesthesia using ketamine and diazepam. The cystic swelling was carefully dissected and enucleated intact, followed by routine closure of subcutaneous tissue and skin. Postoperative care included Inj. Ceftriaxone, Inj. Meloxicam, and Inj. Chlorpheniramine maleate for 7 days. Sutures were removed on 10th post-operative day, and complete recovery was noted after suture removal. The animal was observed for three months and did not show any recurrence. This report highlights the successful surgical management of a carpal cyst in a goat by cyst excision and wound management.

Keywords: Goat, carpal cyst, surgery, cyst excision, enucleation

Introduction

A cyst is a non-inflammatory swelling that forms a sac or a closed cavity filled with liquid or semiliquid material that is also lined by a lining of secretory epithelium. Development of cysts in ruminants is common (Tyagi and Singh, 1993) [5]. In a study conducted by Sadan in 2019 [4], 32.52% of superficial swellings in small ruminants were found to be abscesses while cysts occurred at a rate of 7.23%. Tassel cysts, thyroid cysts and interdigital cysts were found to be the most common.

Body surface swellings are common in veterinary practice. The variations in the species of the affected animals, the location of the swellings, the size and consistency of the swellings and the nature and color of the contents may act as a good and valuable means for diagnosis and differential diagnosis (Misk *et al.*, 2008) [3].

Management options include aspiration and cauterisation, but recurrence is common. Surgical enucleation of the cyst wall is considered the treatment of choice to prevent reformation of the lesion (Tyagi and Singh, 1993) [5].

The present report describes the successful surgical excision of a carpal cyst in a goat and its postoperative outcome.

Materials and Methods

A one-year-old non-descript male goat was presented to the Large Animal Section, Department of Veterinary Surgery and Radiology, Veterinary College, Hebbal, Bengaluru, with a history of a gradually enlarging swelling on the left forelimb (Fig. 1). The swelling was localized to the carpal joint region, soft, fluctuating, cold to touch, and non-painful. The owner reported gradual increase in size over several weeks.

Physiological parameters were within normal limits: temperature 102.3 °F, heart rate 82 beats/min, respiratory rate 20 breaths/min. No systemic abnormalities were detected.



Fig 1: Swelling on carpal region



Fig 2: Surgical site prepared and draped

The goat was fasted for 24 hours before the procedure. Preoperatively, Inj. Ceftriaxone (10 mg/kg IV) and Inj. Meloxicam (0.5 mg/kg IM) were administered prior to surgery.

General anesthesia was induced with ketamine (3 mg/kg IV) in combination with diazepam (0.5 mg/kg IV), and maintained with incremental doses of ketamine and diazepam to effect. The surgical site (carpal region) was shaved, scrubbed with surgical spirit and 7.5% povidone-iodine solution, and prepared aseptically (Fig. 2).

A linear skin incision was made over the swelling on the lateral aspect of the hygroma, and careful dissection through the subcutaneous tissue was performed to expose the cyst wall. The cyst was dissected intact without rupture (Fig. 3).



Fig 3: Careful dissection of cyst



Fig 4: Skin sutured with polyamide

The defect was closed by suturing the subcutaneous tissue with chromic catgut No. 0 in a continuous pattern. Skin closure was performed with non-absorbable polyamide No. 1 in a horizontal mattress suture pattern (Fig. 4). The wound was dressed and covered with sterile bandage, an elastic adhesive bandage was applied and a self adherent wrap was wrapped over it.

The excised cyst measured 4 cm in length, 2 cm in width, and 1 cm in thickness (Fig. 5). On puncturing the excised mass, a yellowish watery straw coloured liquid was observed.

Postoperative medication included Inj. Ceftriaxone (10 mg/kg IM SID daily for 7 days), Inj. Meloxicam (0.5 mg/kg IM daily for 3 days), and Inj. Chlorpheniramine maleate for 5 days. The surgical site was cleaned and dressed daily. Sutures were removed on tenth post-operative day.



Fig 5: Measurement of the cyst size



Fig 6: 10th post operative day

Results and Discussion

The goat recovered uneventfully from anesthesia and resumed feeding within a few hours post-surgery. Wound healing was satisfactory, and sutures were removed on day 10 without complications (Fig. 6). Follow-up at 3 months revealed no recurrence of swelling at the surgical site.

Carpal cysts are distinct from hygromas, as they are true cystic structures with a fluid-filled cavity. Carpal hygromas are localised swellings over the dorsal aspect of the joint involving the skin, subcutaneous precarpal bursa and loose connective tissue with thickened skin or signs of cellulitis (Tyagi and Singh, 1993) [5]. Complete surgical excision is the recommended treatment and provides a favorable outcome with minimal risk of recurrence (Fubini and Ducharme, 2016) [2].

Combination of Ketamine with Diazepam is a good and reliable means of achieving general anaesthesia for short surgical procedures on small ruminants (Amin *et al.*, 2025) [1]. In this case, careful enucleation of the cyst without rupture was key to success, as rupture could have led to incomplete removal and possible recurrence.

Conclusion

This case demonstrates the successful surgical management of a carpal cyst in a goat through complete cyst excision and routine closure. Early diagnosis, proper anesthesia, careful dissection, and diligent postoperative care are crucial for favorable outcomes and prevention of recurrence.

Conflict of Interest

Not available

Financial Support

Not available

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How to Cite This Article

Adithya CE, Karajagi G, Mahesh V, Murthy KMS, Nagaraja BN. Surgical management of carpal cyst in a goat. International Journal of Veterinary Sciences and Animal Husbandry. 2026;11(2):605-607.

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