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Unusual hygroma in a German shepherd dog and its surgical management

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Abstract
A four-month-old female German Shepherd dog was presented with a history of swelling in the perineal region. Clinical examination, sterile needle aspiration and ultrasonographic examination confirmed the swelling as hygroma. Under general anaesthesia surgical intervention was done. Post-operatively a course of antibiotics and analgesics was administered to manage any potential infections and ensure comfort. On the 12th postoperative day, the skin sutures were removed and there was complete healing of the wound without any complications.

Keywords: Hygroma, ischial bursitis, surgical management

Introduction
Hygroma is a soft and fluid filled structure which develops over bony prominences and pressure points of the body (Karen, 2018) [1]. It is generally a painless swelling. Repeated trauma on soft tissue over the bony prominence is mainly responsible for development of hygroma (Fossum *et al.*, 2013; Nath *et al.*, 2014) [2, 3]. Different sites of development of hygroma are the point of elbow, tuber calcanei, ischial tuberosity, trochanter major of the femur and the tuber coxae of the ilium (Pavlectic and Brum, 2015) [4]. Among them hygroma at point of elbow is more common. Heavy body weight animals on non-padded flooring develop hygroma due to the direct pressure on the tissue underlying the bony prominance.

Case history and Diagnosis
A four-month-old female German Shepherd dog was presented with a history of swelling over perineal region. The swelling initially started small and gradually increased in size over a span of 60 days. Initially aspiration technique was followed by the local clinician, but was unsuccessful. Upon palpation, the mass was found to be soft and fluctuating over the ischial tuberosity, with no signs of pain (Fig.1). Aseptic aspiration confirmed the presence of a transparent fluid. Ultrasonography revealed anechoic with fibrin like structure confirming a case of hygroma (Fig.2) and surgical correction was planned accordingly.

Surgical Treatment
The dog was anaesthetized using atropine sulphate @ 0.04 mg/kg BW, xylazine hydrochloride @ 1 mg/kg BW and ketamine hydrochloride @ 5 mg/ kg BW intramuscularly. The dog was positioned in lateral recumbency and routine aseptic preparation was carried out over the swelling region. An elliptical incision was made over the swelling, and the bursa was delicately separated from its soft tissue attachment through blunt dissection, taking care to avoid bursa rupture (Fig. 3, 4). Extra part of skin was removed, and subcutaneous tissue was closed simple continuous manner using vicryl-0 suture to eliminate dead space. Skin closure was performed by horizontal mattress sutures using monofilament non-absorbable polyamide suture material of size 2-0. Postoperatively, antibiotic ceftriaxone was advised @ 20 mg/kg BW for five days, along with the analgesic meloxicam at @ 0.2 mg/kg BW for three days intramuscularly. The wound was dressed regularly using povidone iodine ointment. On the 12th postoperative day, the skin sutures were removed and there was complete healing of the wound without any complications.

Fig 1: Swelling over ischial tuberosity.

Fig 2: Ultrasonography showing anechoic with fibrin like structure.

Fig 3: Separation of bursa by blunt dissection

Fig 4: Removed bursa after surgical excision

Conclusion

Different methods for management of hygroma have been practiced by clinicians as per their choice. Aspiration of hygromas and intralesional injection of corticosteroids has been attempted by many clinicians. But there have been no reports of complete cure by these techniques (Canapp *et al.* 2012) [5]. In the present case aspiration technique was also found unsuccessful. Complete surgical removal of the hygroma gives a permanent solution. But when skin closure is under tension, it increases the risk of wound dehiscence. Dehiscence in this area can create a wound more challenging to resolve and stress to the patient than the original hygroma (Pavletic, 2011; Sahu *et al.*, 2019; Satapathy *et al.*, 2022) [6, 7, 8]. Accumulation of excessive bursal fluid, fibrous bands or septa within the bursal cavity, thickened bursal wall and subcutaneous thickening are the main characters of chronic bursitis (Fathy and Radad, 2006) [9]. Here the case was of chronic in nature and all the above characters were present. Wound healing requires different well integration processes which includes migration of different cells, proliferation of cells, deposition of extracellular matrix, new blood vessel formation and remodeling (Das *et al.*, 2015) [10]. Here skin sutures were placed without tension and hence wound dehiscence was not observed and there was uneventful healing.

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