

DERMOID CYST IN SHEEP - A CASE REPORT*

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ABSTRACT. Stelmann U.J.P., Silva A.A, Souza B.G., Oliveira G.F., Mello E.B.F.R.B, Souza G.C.J. & Hess T.M. **Dermoid cyst in sheep - A Case Report.** [Cisto dermóide em ovino - Relato de Caso]. *Revista Brasileira de Medicina Veterinária*, 34(2):127-130, 2012. Programa de Pós-Graduação em Ciência, Tecnologia e Inovação em Agropecuária, Universidade Federal Rural do Rio de Janeiro, BR 465, Km 7, Seropédica, RJ 23890-000, Brasil. E-mail: stelmann.ppgctia@gmail.com

A dermoid cyst is a non-neoplastic, benign dermatologic injury. This article describes the finding of a dermoid cyst that was surgically extracted in a nine months aged ewe. The patient was admitted to the Large Animal Veterinary Hospital Department at the Federal Rural of Rio de Janeiro University, with a history of a non-healing wound that also contained fur. The ewe was referred to the surgical service and the histopathologic analysis of the lesion revealed a structure lined by stratified epithelium containing hair follicles, sudoriparous and sebaceous glands, which are conclusive for a dermoid cyst diagnosis.

KEY WORDS. Dermoid cyst, epidermoid cyst, cutaneous cyst, sebaceous glands, sheep.

RESUMO. O Cisto dermóide é uma lesão dermatológica, de caráter não-neoplásico, evolução lenta e desenvolvimento benigno. Este artigo discute sobre os achados clínicos e histopatológicos de um caso de cisto dermóide em uma ovelha de nove meses de idade. Como principais sinais clínicos o animal apresentava claudicação do membro anterior esquerdo e uma ferida com aproximadamente um mês de evolução na porção distal do mesmo membro, por onde protuíam-se pêlos. O ovino foi encaminhado à cirurgia e o exame histopatológico revelou uma estrutura revestida por epitélio estratificado

contendo folículos pilosos e glândulas sebáceas e sudoríparas, compatível com o diagnóstico de cisto dermóide.

PALAVRAS-CHAVE. Cisto dermóide, cisto epidermóide, cisto cutâneo, glândula sebácea, ovino.

INTRODUCTION

Dermoid cyst is a rare non-neoplastic skin abnormality that is characterized by a focal duplication of the whole dermatologic structure, including skin and associated structures (Freitas et al. 2005). Macroscopically they are similar to follicular cysts and

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can occur in isolated form or in groups, in dermic or subcutaneous area (Gross et al. 1992). A small pore can connect the interior of the cyst to the cutaneous surface and hair can protrude from that opening (Hargis et al. 1977).

It is believed that these cysts originate from an incarceration and subsequent growth of embryonic epithelial cells during the closure of the neural tube, and therefore most of these lesions occur along the median line (Muñoz et al. 2007, Menditti et al. 2008). However there are reports of acquired dermoid cysts, secondary to traumatic epithelial dislocations (Hillyer et al. 2003). The increased size of the cyst occurs due to normal cell desquamation within the cyst cavity leading to secondary signs related to the compression of adjacent structures (Lazaridis et al. 2007).

Dermoid cysts are well documented in humans however less common among animal species (Sarrafzadeh-Rezaei et al. 2007). It is most common among dogs (Hargis et al. 1977, Liptak et al. 2000), however less common among cats and bovines (Henderson et al. 1993, Baird et al. 1993), and less frequent among horses (Scott & Miller 2003, Muñoz et al. 2007) and goats (Gamlem & Crawford 1997).

The following case is the clinical and histopathologic description of a dermoid cyst in a sheep, treated by surgical excision.

HISTORICAL FINDINGS

A Santa Ignez nine month ewe was referred to the Large Animal Hospital of the Federal Rural University of Rio de Janeiro. The owner brought her in due to a non healing lesion at the distal aspect of the left front leg.

During the physical exam the ewe was alert, in a good condition score, and weighed 30 kg. Clinical parameters: heart and respiratory frequency, mucous membrane color, capillary refill time, rectal temperature and ruminal motility were all normal.

The presence of a foreign body was suspected in the lesion. The area was shaved and cleaned with povidone-iodine solution at 10%. Five to 10 ml of a 0.9% saline were infused into the lesion through a sterile urethral catheter connected to a sterile syringe. The remaining fluid in the cavity was aspirated manually. An ultra sound of the region was performed and no connection to any tissues was found.

A treatment was prescribed to the owner consisting of local cleaning with topical Povidone iodine

pyrrolidone solution at 10% and chlorhexidine, with cotton gauze and antibiotic therapy consisting of bezatin penicillin (40.000 IU/kg q 48 hs IM, for 4 times). Also, 5000 IU of tetanus anti toxin were administered intra muscularly.

After three months the owner returned with the ewe to the Hospital. The ewe still had the lesion and presented a grade I lameness from the affected limb. According to the owner two months after the healing of the initial lesion another lesion appeared and the animal became lame. A new clinical exam was performed and no alterations in the clinical parameters were observed. A grade I lameness was observed from the same limb. The lesion had a diameter of 1 cm, and was 5 cm deep, and a swollen area was found around the lesion. The lesion was similar to the initial one and there was a mucous secretion coming from the lesion and hair protruding out of the opening.

Cleaning of the lesion was performed as for the first time and hair was recovered from the cavity lavage. The clinical diagnosis indicated the presence of a dermoid cyst and the animal was referred to surgery.

The animal was contained and sedated with xylazine 2% (0.5 mg/kg, IM) and maintained on left lateral decubitus. Shaving and asepsis of the surgical area was done and local anesthesia was applied by the administration of 5 ml of 2% lidocaine.

Initially a skin and subcutaneous fusiform incision was done around the lesion and a tubular structure was visualized. Tissue was separated along its tract and a saccular structure with one cm of diameter with hardened consistency was revealed. The procedure was completed with the excision of the tissue mass and its transfer to a container with formalin at 10%. The incision was flushed with sterile saline solution and reduced by suture with chromic catgut (#0). Skin suture was performed by separated stitches with nylon suture (#0). The collected material was sent to the department of Pathology of the São Paulo State University, Botucatu, Brazil, for histopathologic analysis.

Histopathologic analysis revealed a central area composed of hair and keratin, resulting from desquamation of pavement stratified epithelium where hair follicles and sebaceous glands were presented. Around the hair follicles sudoriparous glands were found on a conjunctive stroma that contained a lymphocytic infiltrate. No signs of malignancy were found. Diagnosis was of a dermoid cyst (Figura 1).

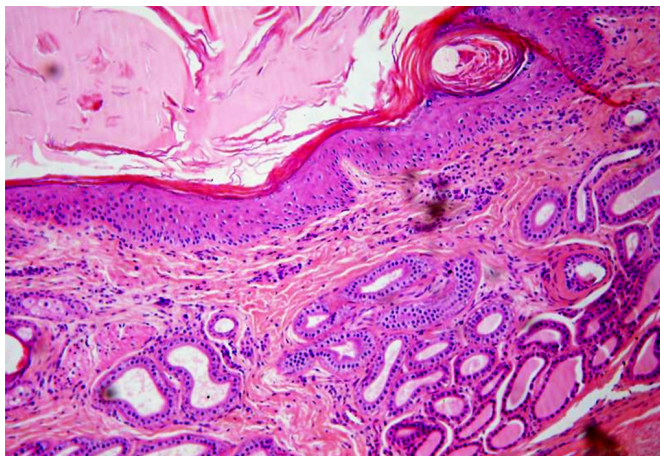


Figure 1. Dermoid cyst wall composed of stratified pavement epithelium filled with keratin where secondary hair follicles and sebaceous glands appear.

After surgery parenteral antibiotics were administered (Benzatin penicilin 40.000 IU/kg q 48 hs IM) and non-steroidal anti-inflammatory drug (flunixin, 1.1 mg/kg bid, IM). The cleaning of the incision consisted of local irrigation with a topical iodine-povidone solution at 10% and the application of an antibiotic cream (neomicin and bacitracin). The animal was kept at the Hospital for two weeks until complete healing of the incision.

DISCUSSION

A dermoid cyst is characterized by the presence of sebaceous and sudoriparous glands and/or hair follicles (D'antonio et al. 2000, Akao et al. 2003, Pereira et al. 2008). Differential diagnosis include: infundibular or epidermoid cyst, sarcóide and collagenolytic granuloma (Hillyer et al. 2003). The diagnosis of the excised structure was based upon the current description of dermoid cyst in the literature. The finding of sebaceous glands on the epithelial covering the cyst was an confirmation evidence for the diagnosis (Takeda et al. 2003, Muñoz et al. 2007, Sarrafzadeh-Rezaei et al. 2007).

Dermoid cysts may have a congenital or acquired origin (Hillyer et al. 2003, Muñoz et al. 2007). In humans dermoid cysts may develop in 5 months after a traumatic lesion of the skin (Tulvatana et al. 2005) suggesting that acquired cysts may have a fast development rate. In the current case, the description given by the owner was not conclusive to determine the origin of the cyst. The age of the ewe can point to a congenital origin. However an acquired cyst cannot be discharged although a recent trauma had not occurred. There is the possibility

that the ewe had a non observed injury, since it is maintained in a semi-intensive management.

The site of dermoid cysts varies among species. In humans cerebral (Akhaddar et al. 2002), spinal medullar (Nishie et al. 2003), ovarian (Ferrari et al. 2003), penian (Yoshiaki et al. 2003), lingual (Milam et al. 2003), orbital (Colombo et al. 2000, Abou-Rayyah et al. 2002, Perry & Tuthill 2003), mandibular (Takeda et al. 2003), and cervical cysts (Pryor et al. 2005) have been described. In dogs and cats the cerebral and medullar cysts are the most commonly found (Sarrafzadeh-Rezaei et al. 2007). A single report found a dermoid cyst on the tongue of a dog (Liptak et al. 2000). In equines dermoid cysts occur most frequently in the median dorsal line, more precisely in the lumbar and thoracic regions (Pascoe & Knottenbelt 1999, Scott & Miller 2003). In retrospective studies of equine dermoid cysts all described horses had their lesions on the dorsal medial line (Abraham 1995, Hillyer et al. 2003, Pascoe 1981). In bovines dermoid cysts occur in the ocular and periocular regions (Akhaddar et al. 2002, Ashkan et al. 2002).

The indicated treatment is the surgical removal of the dermoid cyst (Hillyer et al. 2003, Muñoz et al. 2007). During the dissection of the cyst, the structure should be left intact, because its identification turns to be difficult in an event of its rupture. It is also important to remove the whole cyst due to the chance of reoccurrence (Muñoz et al. 2007).

CONCLUSION

The dermoid cyst although benign should not be underestimated. It is always important perform differential diagnosis clinically or pathologically. Differentiation between dermoid cysts and epidermoid cysts need to be done and clinical and histopathologic characteristics may lead to wrong diagnosis. In the current case the lesion characteristics as well as the histopathologic findings were conclusive for the diagnosis. Treatment is simple and well established and involves careful dissection, which prevents reoccurrence.

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