



Clinical Report

Dermal Melanocytoma of the Hoof in a Goat

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Abstract

Case Description- A two-year-old female goat with a dark mass on the left hoof was referred to veterinary clinic of Shahid Bahonar University of Kerman.

Clinical Findings- A large black and hemorrhagic tumor-like tissue was observed on the left hoof. The epidermis was intact and hairless.

Treatment and Outcome- Considering the good body condition of the patient, the mass was removed surgically. Cefazoline (20 mg/kg/Im, Jaberebne Hayyan laboratory, Iran) was administered every 12 hours for 5 days. Histopathologic examination showed small spindle cells with intracytoplasmic melanin granules in dermis and dermal melanocytoma was confirmed.

Clinical Relevance- Melanocytomas are common in dogs, horses, and certain breeds of swine, less common in cats and cattle, and rare in sheep and goats. In such cases, surgical treatment is the treatment of choice. This is the first report of dermal melanocytoma in goat.

Key Words- Dermal Melanocytoma, Goat, Hoof.

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Case Description and Clinical Findings



A two-year-old female goat with a dark mass on the left hoof was referred to veterinary clinic of Shahid Bahonar University of Kerman. In physical examination, an abnormal large black and hemorrhagic tumorous tissue was observed on the left hoof (fig. 1). It involved lateral hoof with interdigital space, with minimal invasion to the other hoof. According to the case history, the mass grew gradually during a period of two months. The animal was reluctant to use her involved limb. There was no similar lesion in the other parts of the body.

◀ **Figure 1.** Caprine dermal melanocytoma. Large melanotic tumor in the left hoof.

Treatment and Outcome

Because of good body condition of the patient, the mass was removed surgically. For this purpose the area was prepared for an aseptic surgery. A ring block was done from above the metatarsophalangeal joint and a tourniquet was applied over the joint. The affected hoof with surrounding skin was sharply removed and bleeders were stopped by electrocoagulation or ligations. The area was rinsed by normal saline and a pressure bandage was applied followed by a water resistant wrap. The dressing was changed everyday for 5 days and every over day from the day 5 to 10, when the wound left uncovered. Cefazoline (20 mg/kg/Im, Jaberebnc Hayyan laboratory, Iran) was administered every 12 hours for 5 days.

The case was followed 2 months later and the animal could bear her weight on the left hoof.

The mass was cut and samples sent for pathology.

Following routine preparation of the tissue, sections of paraffin embedded tissues with 5 μ thickness were cut with a microtome and stained with hematoxylin and eosin and studied under light microscope. Histopathologic examination showed that the neoplastic cells were small spindle cells with intracytoplasmic melanin granules. A variable amount of collagenous stroma was present between the neoplastic cells. The cell borders were quite distinct. There was no nuclear or cellular pleomorphism and mitoses (fig. 2). These findings confirmed dermal melanocytoma.

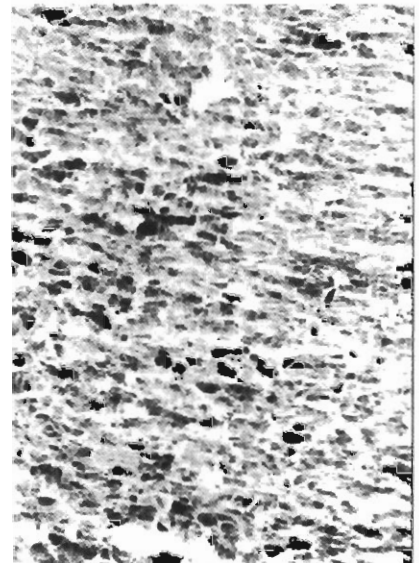


Figure 2. Caprine dermal melanocytoma. Diffuse dermal proliferative of melanocytes is seen; $\times 200$ – H&E.

Discussion

Melanoblasts are neuroectodermal in origin and during fetal development they migrate to skin and hair bulbs. Dermal melanocytoma is a benign tumor arising from the melanocytes in the epidermis, dermis or adnexa, but primarily from the external root sheath of the hair follicle. The majority of melanocytomas are slow growing and vary considerably in their appearance, which may be related to the length of time they have been present in the skin. On cut section of melanocytoma the epidermis is usually intact, and there is often hair loss. The tumor may have variegated appearance, with areas of pigmentation intermingled with nonpigmented regions.¹

As a general rule tumors arising from the haired skin are benign, whereas those arising from mucocutaneous junctions are malignant, the only exception being those arising on the eyelids. To determine whether a cutaneous melanocytic neoplasm is benign or malignant requires histological examination.

In histological features, the intraepidermal component of melanocytomas, seen in junctional and compound melanocytomas, consist of atypical melanocytes that occur either as single cells or small nests of tumor cells in the lower epidermis or the external root sheath of the hair follicle. Dermal melanocytomas may be less cellular. An unusual variant of melanocytoma that consists of large round cells with an abundant pale eosinophilic granular cytoplasm is referred to as the balloon-cell melanocytoma. The majority of these tumors show little nuclear or cellular pleomorphism. The number of mitosis is usually low.

Dogs less than a year of age occasionally develop melanocytomas, but it is difficult to establish if these are congenital lesions. Horses may occasionally develop congenital melanocytomas. Predilection sites for melanocytomas are the eyelids, the legs and trunk in young horses, the perineum and tail in older gray horses, and the head in cats.¹ Congenital and acquired melanocytomas in 18 young horses has been reported by Foley. All tumors were solitary and located on the legs or trunk.² Millanta et al have reported melanocytoma in 10 dogs.³ In a study dermal melanocytoma in a German Shepherd dog has been distinguished by immunohistopathologic characterization.⁴ Miller et al and Yeruham reported melanocytoma in cattle.^{5,6} Cutaneous melanocytoma has been reported in a llama, too.⁷ Although malignant melanoma has been reported in the goat^{8,9,10}, but there is no report about dermal melanocytoma in the goat since now. In such cases, surgical treatment is the treatment of choice.¹

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ملانوسیتومای درمی در ناحیه سم یک رأس بز

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توصیف بیمار و یافته های بالینی- یک بز ماده ۲ ساله با توده ای سیاه و خونریزی دهنده در سم چپ به کلینیک دامپزشکی دانشگاه شهید باهنر کرمان ارجاع شد.

درمان و نتیجه آن- با توجه به وضعیت خوب بیمار، توده مزبور به طور کامل از طریق جراحی برداشته شد. سفازولین (۲۰ mg/kg/lm، داروسازی جابرین حیان، ایران) هر ۱۲ ساعت یک بار به مدت ۵ روز تجویز گردید. بافته های هبستوباتولوژیک، وجودسلول های دوکی شکل حاوی دانه های ملانین داخل سیتوپلاسمی در درم را تابید نمود و از این رو ملانوسیتومای درمی تشخیص داده شد.

کاربرد بالینی- ملانوسیتوما در سگ، اسب و برخی گونه های خوک، کمتر در گربه و گاو و به ندرت در گوسفند و بز رخ می دهد در مان انتخابی در این موارد، جراحی است. مقاله حاضر اولین گزارش وقوع ملانوسیتومای درمی در بز می باشد. کلید واژگان ملانوسیتومای درمی، بز، سم.