

Case Report

Multiple Cutaneous Melanomas in a Dog: A Case Report

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ABSTRACT

A 1 year old Great Dane bitch was presented with multiple, pedunculated masses of varying sizes. On clinical examination, the masses were soft, pliable and revealed both pigmented as well as unpigmented skin coat. Histopathologically, all the tumour masses were characterized by mild epidermal hyperplasia along with aggregates of melanin pigments in the dermis. The dermal collagen was moderately hyperplastic and arranged as wavy bundles often containing focal aggregates of melanin. The cases of melanoma in dogs have been reported by many earlier workers but the unusual occurrence of spontaneous multiple cutaneous melanomas in a one year old dog as in the present case appears to be very rare and not have been reported earlier.

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INTRODUCTION

Melanomas are one of the commonly diagnosed tumours in dogs that originate from melanin producing cells. The benign cutaneous melanomas that arise on the haired skin usually display very little cytologic or nuclear atypia and a few mitotic figures. The lesions are solitary, and occur most commonly on the head, limbs, digits, scrotum, lip and trunk. These are variably circumscribed and are gray, brown or black in color, ranging from 0.5 to 10 cm in diameter. Histopathologically, characterized by the presence of atypical melanocytes arranged in sheets (packets or mesh) or in cords and are exhibited as epithelioid, spindle cell or combination of these two forms (Moulton, 1990; Goldschmidt and Schofer 1992). Among the skin tumours, melanocytic neoplasm accounts to five percent and usually solitary in nature (Scott et al., 2001).

MATERIAL AND METHODS

A one-year-old Great Dane bitch presented to Veterinary Teaching Hospital, Puducherry was evaluated for multiple cutaneous masses in the skin of different body regions.



Figure 1: Melanoma from a female Great Dane showing multiple pedunculated growths in the hindquarters and abdominal region

The anamnesis revealed that, the owner first noticed the masses 3 months prior to evaluation and since then the masses have gradually increased in size. On clinical examination, the masses were soft, pliable and revealed both pigmented as well as unpigmented skin coat. The size of tumour masses in the present case ranged from 1 cm to 6 cm in diameter (Fig. 1)



Figure 2: Unstained smear of needle aspirate showing varying sizes of melanin granules x400

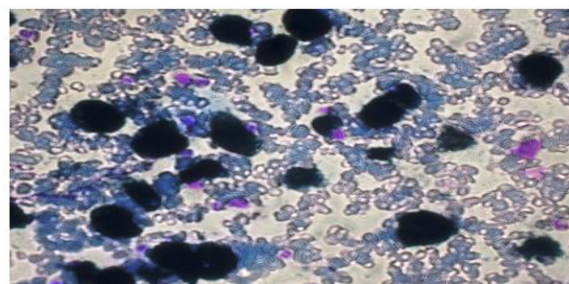


Figure 3: Aspirate from melanoma showing varying sizes of melanin granules. Leishman's & Giemsa x400

The cut surface was dark brown in color with little apparently normal tissues. Cytology smears from different masses were prepared by fine needle aspiration cytology (FNAC) and stained with Leishman's and Giemsa staining. Representative tissue samples were collected from each mass and fixed in 10% neutral buffered formalin. The fixed tissue samples were processed for paraffin embedding and 4-5 μ thick sections were cut and stained with hematoxylin and eosin for histopathological examination (Luna, 1968)

The FNAC smear showed presence of varying sizes of dark brown to jet-black granules often masking the cellular details (Fig. 2 & 3). Histopathologically, all the tumour masses were characterized by moderate degree of orthokeratosis, hyperpigmentation of epidermal cell layer. The dermis revealed aggregates of melanin pigments interspersed between the dermal collagen. The collagens were severely hyperplastic and were arranged as wavy bundles without any adnexal structures (Fig. 4).

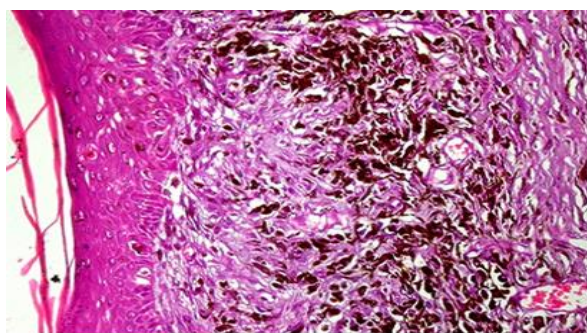


Figure.4: Melanoma showing nests of melanocytes within the dermis. H&E x100

Based on these features, the case was diagnosed as multiple cutaneous melanomas. The cases of melanoma in dogs have been reported by many earlier worker (Schultheiss, 2006; Bidur et al., 2007) but the unusual occurrence of spontaneous multiple cutaneous melanomas in a one year old dog as in the present case appears to have not been reported earlier.

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