



20th Meeting
of the
European Society of
Veterinary Pathology

Grugliasco (Turin)
Italy
18-21 September 2002

Programme
and
Proceedings

MALIGNANT MELANOMA IN A BROWN BEAR (*URSUS ARCTOS*)

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AIM OF THE STUDY: To describe gross appearance, histopathological and immunohistochemical findings of malignant melanoma in a brown bear (*Ursus arctos*).

MATERIAL AND METHODS: Skin biopsy specimen was fixed in 10% neutral buffered formalin and embedded in paraffin. The 5µm thin sections were stained with HE, PAS, Von Kossa, Masson Fontana, Brown and Brenn (for bacteria), Melan A and S-100 protein.

RESULTS: Hairless, ulcerated neoplasm of approximately 10 cm in diameter, of nodular appearance with excessive bleeding is found on the medial side of the front left extremity in the antebrachial region. The tumor tissue with white, pink and brown-colored fields was protruding 2-3 cm above the skin surface. Histological examination evidenced in the superficial part of the tumor, large number of microorganisms, neutrophil granulocytes and smaller quantities of the osteoid tissue. The tumor was predominantly composed of the dendritic and spindle-shaped cells, as well as islets composed of epitheloid cells and small number of gigantic multinuclear and bizarre cells. Presence of vacuoles and small to moderate quantities of melanin were observed in the cytoplasm of all the above-mentioned cells. The epitheloid cells were characterized by exceptionally small amounts of melanin, as well as by relatively numerous mitoses. Interspaces between the tumor cells revealed relatively large number of polyhedral cells with large and multiple melanin granules completely filling the cytoplasm and masking the nucleus. S-100 expression was evidenced in the cytoplasm and nucleus while Melan A was expressed in traces in the tumor cell cytoplasm.

CONCLUSIONS: Before this case, only two brown bear neoplasms, lymphosarcoma and leiomyoma, were reported. This is the first reported case of malignant melanoma in a brown bear in Yugoslavia.