Skin Tumor Consisting of Intermingled Lipoma and Extramedullary Plasmacytoma in an Old Dog

Hanami Hyogo1, Tamio Ohmuro2, James Chembers3, Junichi Kamiie1, Kinji Shirota1,*

1) Laboratory of Veterinary Pathology, Azabu University, 2) Ohmuro Veterinary Clinic, 3) Department of Veterinary Pathology, The University of Tokyo

A cutaneous solitary soft neoplasm of approximately 20 mm in diameter developed on the back of a 14-year-old male mongrel dog (Fig. 1). Cytologic examination of a fine-needle biopsy of the neoplasm revealed round tumor cells with eccentric nuclei and occasional perinuclear halos. No significant clinical symptoms were found in the dog. The neoplasm was resected under local anesthesia. The mass lesion was easily separated from the adjacent subcutaneous tissue, and the gross appearance of the cut surface was shiny and similar to lipoma (Fig. 2). The resected neoplasm was fixed in 10% neutral buffered formalin, in which it floated, and was then submitted to our laboratory for histologic examination.

Histologically, a major portion of the neoplasm consisted of a lipomatous structure composed of mature adipocytes with a small distinct proliferating focus of closely packed neoplastic plasmacytoid cells (Fig. 3). The well-demarcated lipomatous structure was surrounded by thin collagen fibers. In addition, the neoplastic plasmacytoid cells had diffusely infiltrated within and around the lipomatous structure (Fig. 4). The neoplastic plasmacytoid cells showed mild anisokaryosis and frequent mitosis, especially in the proliferating focus. Many of the neoplastic plasmacytoid cells infiltrating between the adipocytes had a fine vacuolar cytoplasm.

Immunostaining revealed that the cytoplasm of most of the neoplastic plasmacytoid cells was positive for the lambda light chain of immunoglobulin, but negative for the kappa light chain of immunoglobulin (Fig. 4), suggesting monoclonal proliferation of the plasma cells.

From these histologic findings, the tumor was diagnosed as a benign collision tumor of the skin that consisted of lipoma and extramedullary plasmacytoma. A collision tumor is defined as a tumor in which the neoplastic proliferation of cells from two originally different cell lineages occurs in close proximity in the same tumor tissue3). Collision tumors are rare in dogs, although malignant collision tumors in the skin7 and

Fig. 1. Gross appearance of the tumor on the back of the dog. The surface of the protruded tumor was smooth and sparsely haired. Bar=10 mm.
the oral cavity have been reported\(^4\). In the present case, the gross appearance of the tumor was consistent with that of lipoma. However, the preoperative cytologic examination revealed neoplastic proliferation of round cells with eccentric nuclei and perinuclear halos, indicating plasmacytoma. Cutaneous extramedullary plasmacytoma is common in dogs, and is usually found as a firm tumor in the skin\(^1\). The discrepancy between the gross and cytologic features of the neoplasm in this dog was due to the nature of the collision tumor components. There are several histologic subtypes of lipoma: fibrolipoma, angiolipoma, angiofibrolipoma, and chondrolipoma\(^1\). However, no benign adipocyte tumor coinciding with plasmacytoma has been reported to date. To the authors’ knowledge, this is the first report of a benign collision tumor of the skin in a dog.

**Conflict of Interest**

The authors declare they have no conflicts of interest.

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**References**


