NOTE

T-Cell Lymphoma in a Dog with Cutaneous Lesions

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The immunological characteristics of lymphoma cells have been under investigation for the classification of canine lymphoma. Most of the canine lymphoma cases previously reported had anatomically multicentric form and immunologically B-cell properties [1, 4, 5]. On the other hand, cutaneous form of lymphoma was rarely encountered [7], and was argued about the immunological properties [2, 6]. This note describes a canine case of lymphoma with marked cutaneous lesions, and concerns with the cell-surface immunological markers of the lymphoma cells.

A 4-years-old female mongrel dog weighing 10 kg was presented because of the progressive skin lesions and anorexia. The dog had begun having a few skin nodules on the back about 5 months ago, thereafter the nodules increased in size and number. Pruritus was not observed. At the first admission, the dog had multiple skin nodules on the back [Fig. 1], left elbow and muzzle. The nodules were round (2 to 5 cm in diameter) to irregular in shape, and accompanied with partial or complete loss of hair. Some nodules on the back and muzzle were ulcerated having sa-
thin epidermis. In the ulcerated area, superficial hemorrhage and infiltration of the polymorphonuclear leukocytes were seen over the neoplastic cells in the dermis. Electron microscopic findings of the neoplastic cells revealed the nuclear chromatin evenly distributed or showing some margination. The cell surface was smooth, and the cytoplasm contained numerous polysomes, many large sized mitochondria, some rough endoplasmic reticulum cisternae, vacuoles and poorly developed Golgi apparatus [Fig. 4].

For the investigation of the cell-surface immunological markers, neoplastic cells were prepared by mincing a nonulcerated skin nodule in phosphate buffered saline immediately after biopsy. In these neoplastic cells, 84.5% formed rosettes with human erythrocytes, and only 1.5% were cell-surface immunoglobulin positive. These results suggested that the tumor cells in this case had T cell characteristics.

The dog was killed for the poor prognosis 1 week after the first admission. At necropsy, there were many skin nodules and subcutaneous ones. The peripheral lymph nodes and spleen were moderately enlarged. The right kidney was irregularly enlarged, and almost replaced by the neoplastic tissue. A neoplastic mass about 3 cm in diameter was observed adjacent to the left kidney. The liver was moderately swollen and contained some white nodules on its surface. Multiple white nodules were distributed throughout the lobes of the lung, and a large white mass about 4 cm in diameter was found in the right cranial lobe.

Histopathologically, the neoplastic masses and nodules of the skin, subcutis, kidney, liver and lung were composed of the immature lymphoid cells as seen in the biopsy specimen of the skin. In the spleen, mesenteric lymph nodes and bone marrow some clusters of the neoplastic cells were observed.

References

Explanation of Figures
Fig. 1. Ulcerated nodules on the back (about 4 cm in diameter).
Fig. 2. Neoplastic cells infiltrating into the dermis. Hematoxylin and eosin staining. ×260.
Fig. 3. Stamp smear of the cutaneous nodules showing the neoplastic cells. May-Grünwald Giemsa staining. ×1,500.
Fig. 4. Electron micrograph of a neoplastic cell. Lead citrate and uranyl acetate staining. ×6,700.
要約

皮膚病変を伴ったT細胞リンパ腫のイヌの1例（短報）：辻本元、長谷川篤彦、高橋令治1、友田勇（東京大学農学部家畜内科学教室，1家畜病理学教室）——皮膚に結節および潰瘍の多発した4歳、雄の雑種犬を検査した。皮膚結節の生検においては、真皮における腫瘍性リンパ系細胞の著明な増生が認められ、剖検時、各臓器に同様な細胞の浸潤、増生が認められた。皮膚結節の腫瘍細胞は、ヒト赤血球Eロゼット形成および表面免疫グロブリンの検査所見でT細胞の形質を示し、本例をT細胞リンパ腫と診断した。