

## **Application of New Immunotherapy Using AHCC for Animal Disease**

T. Masuyama<sup>1</sup>, Y. Mizuishi<sup>1</sup>, A. Moriyama<sup>2</sup>, K. Takeshita<sup>1</sup>, T. Takahashi<sup>1</sup> and M. Kuwabara<sup>1</sup> Department of Bioresource Science, Nippon University, 2 Moriyama Pet Clinic

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The new immunotherapy was derived from multi-drug combination immunotherapy using several drugs that were less effective on tumor suppression when each drug was used alone. Nowadays, better shark<sup>TM</sup>, AHCCTM, vitamin supplements and ursoic acid were mainly used for treatment.

We have already reported that the new immunotherapy increased the chemiluminescence (CL) activity in the whole blood on tumor-bearing dogs. Then, macrophages (M $\phi$ ) and natural killer (NK) cells were separated from dog blood and examined CL activity of tumor-bearing animal in this present study.

### **Cases and Methods**

The case #1 was female shetland sheepdog, 12 years old. Soft swelling (52 x 50 x 32/mm<sup>3</sup>) were recognized in the region from the base of the tail to the lumber in April 2000. ALP, T-BIL and GOT in the blood were decreased to 58IU/l, 0.2g/dl and 10U/l, respectively. It was diagnosed as fibrosarcoma from the results of pathological test.

The case #2 was a female beagle, 13 years old. Swelling was recognized in left 2nd mammary gland (15mm). GOT and LDH in the blood were 10IU/l and 113IU/l, respectively. It was diagnosed as mammary adenoma from the results of pathological test.

In the case #1, the new immunotherapy excluding krestin was administered daily from April 2000. The activities of M $\phi$  and NK cells were measured several times by CL method. In the case #2, AHCC was administered alone from May and the activities of M $\phi$  and NK cells were measured several times by CL method.

### **Results and Discussion**

In the case #1, fibrosarcoma on lumber region was temporarily extended, however, it was decreased in June compared with that when the new immunotherapy started in 28th, April. CL activities of M $\phi$  and NK cells were increased from 16th, May after the new immunotherapy started. Then, the activities were increased and tumors were softened and reduced.

In the case #2, the swelling in mammary gland (15mm) was recognized in May 2000. M $\phi$  activities were slightly increased at the beginning of the new immunotherapy (9th, May) compared with these at 1 week after administration (16th, May). Activities of NK cells were normal at the first administration and it was markedly increased 7 days after administration.

From these results, application of the new immunotherapy using AHCC to the tumors of animals enhanced the CL activities of M $\phi$  and NK cells. It was suggested that the new immunotherapy using AHCC might be effective on the tumors-bearing animals.