of another nude mouse, and watched if it began to grow and develop into a tumor mass with similar morphology to the primary sarcoma. Eachtumor was analyzed histologically, and immunohistochemical stains for cytokeratin,vimentin, desmin, and s-100 were performed. Ki-67 index was evaluated in the tumors.

Results: Histopathologically, the primary tumor showed undifferentiated pleomorphic spindle cell sarcoma (SCS) with storiform and solidpatterns, poor encapsulation, invading into adjacent tissue. Immunohistochemical tests showed positive immunoreactivity for vimentin, but not for cytokeratin, desmin, and s-100 in the primary tumor. All tumors from SCS_F1,F2, F3 and F4 were same as the primary SCS in the immunoreactivity; positivefor vimentin, but negative for cytokeratin, desmin, and s-100, and high Ki-67 labeling index. Meanwhile, the frozen SCS_F1 tumor tissue in the freezing medium, which was transplanted into the inguinal region of a nude mouse, began to grow and develop a large tumor mass again [SCS_F2(C)]. The doubling time of tumor growth was about one month. The tumor showed similar morphology and immunohistochemical characteristics as the primary and tissue transplanted SCS_F1, F2(C), F3 and F4 tumors.

Conclusions: In the present study, we successfully established a tissue bank of spindle cell sarcoma originated from soft tissue, not from the muscle tissues, of 9-year old Maltese female dog, by freezing the tumor tissues alive. The neoplastic cells of the tumor showed an elongated and polygonal appearance, making solid and storifrom pattern, and had strong expression of vimentin with high proliferating activity. Establishment of the live tissuebank of canine spindle cell sarcoma would contribute to future cancer researches of those kinds in dogs.

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Exploration of the developmental process of vasculogenic mimicry incanine inflammatory mammary carcinoma: compared with comedocarcinoma.

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Introduction: Canine inflammatory mammary carcinoma (CIMC) similar to human inflammatory breast cancer is a very aggressive, metastatic type of cancer. Previous studies have introduced a new type of tumor angiogenesis called vasculogenic mimicry that may play an important role in the progression of inflammatory mammary cancer. The purpose of this study is to investigate the development process of vessels by neoplastic cells in CIMC.

Materials and Methods: Patient dog, 14-year old Shit- Tzu female, had a hard and somewhat movable dark-reddish mammary tumor, sized 6.2cm in diameter. Bloody dark turbid exudate was released from the tumor. For histological examination, the tumor mass was fixed in 10% bufferedformalin, and then processed for dehydration and paraffin infiltration, followed by tissue section in 3mm and hematoxylin and eosin stain. We tried to find the morphological evidences of vasculogenic potential of the neoplastic cells by histological and immunohistochemical characterization and comparison of the results in a comedo type mammary carcinoma. Immunohistochemistry for pancytokeratin (epithelial cell marker), VCAM-1 (vascularendothelial cell marker)and Ki-67 (cell proliferation marker) was respectively performed using the ABC method.

Results: Histologically, it was diagnosed as an inflammatory mammary carcinoma, characterized by commonly found tubular solid tumor emboli within the lymphatic vessels surrounded by desmoplastic fibrous connective tissue. Some of the neoplastic cells were transforming into elongate or spindle shapes and forming small vessel-like structures in the solid tumor mass. The neoplastic cells were immunoreactive for VCAM-1 and pancytokeratin, but showed low immunoreactivity for Ki-67. These morphological and immunohistochemical characteristics were comparable with the comedocarcinoma, which was negative for VCAM-1.

Conclusions: Immunoreactive neoplastic cells for VCAM-1 suggested the possibility that theneoplastic cells transform into endothelial cells of vessels byepithelial-mesenchymal transition, further supported by serial morphological changes identified by histological investigation and pancytokeratin immunohistochemistry. The high capacity of the neoplastic cells forming the vasculatures in inflammatory mammary carcinoma explains the high ratio of metastasis to other regions, even though Ki-67 index was not so high.

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