

Jiraporn Sritun 2010: Development of Tumor Markers: Anti-Vimentin and Anti-Cytokeratin for Canine Skin Tumor Classification. Master of Science (Veterinary Pathology), Major Field: Veterinary Pathology, Department of Pathology. Thesis Advisor: Assistant Professor Chaiyan Kasorndorkbau, DVM., Ph.D. 112 pages.

Currently, canine skin tumors are a common disease. Tumor classification is based on routine histopathological examination. In routine study, canine skin tumors have been classified according to cell origin and tumor behavior. The purpose of this study was to define the tumor marker of important skin tumors. This study presents the results of immunohistochemical studies on the distribution of intermediate filamentous proteins vimentin and cytokeratin which proposed to be tumor markers. Vimentin is specific antibody to mesenchymal cells whereas cytokeratin is specific to epithelial cells. In this study, the collected test specimen included 30 epithelial tumors and 30 mesenchymal tumors. Epithelial tumors consist squamous cell carcinoma (5), trichoblastoma (5) basal cell carcinoma (5), sebaceous gland adenocarcinoma (5) sebaceous gland epithelioma (5) perianal gland adenoma (5). Mesenchymal tumors were: fibrosarcoma (5), schwannoma (5) melanoma (5) hemangiopericytoma (5), hemangiosarcoma (5) and liposarcoma. Vimentin was expressed on all of mesenchymal tumors with variable intensities and amount of positive cells. The expression of cytokeratin was noticed on all of epithelial tumors with variable intensities of immunoreactive cells. These results are correlated with routine histopathological staining interpretation ($\kappa = 1$). Data of each factor was collected such as antibody concentration, antigen retrieval methods and detection system. Antibody concentration was evaluated. The proper anti-vimentin concentration for each mesenchymal tumor was 1:200 whereas suitable concentration of anti-cytokeratin for each epithelial tumor was 1:300. The application of this concentration was used with suitable antigen retrieval methods and polymer detection systems.

Student's signature

Thesis Advisor's signature