Canine biphasic synovial sarcoma: case report and immunohistochemical characterization

ABSTRACT

The clinical, radiological and pathologic features of a biphasic synovial sarcoma in the left elbow joint of a two-year-old male Rottweiler are presented. The tumor showed positive immunoreactivity for vimentin, Epithelial Membrane Antigen (EMA), p53 and PCNA, while it was negative for the cytokeratin used, S-100, Rb and p21. Immunohistochemistry for EMA allowed the identification of epithelioid components of synovial sarcoma, and may, therefore, contribute in establishing a diagnosis of biphasic synovial sarcoma. Intratumoral variation in PCNA immunoreactivity was minimal, indicating that the various tumor components proliferate at more or less similar rates. Overall, the characterized immunohistochemical profile for canine synovial sarcoma, not defined previously, may provide clues to the histogenesis of the phenotypically mesenchymal and epithelial elements of the tumor, and may be of value in the differential diagnosis of challenging cases, decreasing the risk of under- and mis-diagnosis. Although more cases need to be studied to determine whether there is a consistent pattern of immunostaining in canine synovial sarcoma, its potential significance is discussed in relation to the histogenesis, molecular pathology and differential diagnosis of canine synovial sarcoma.

Keyword: Epithelial membrane antigen; Dogs; Immunohistochemistry; Neoplasms; p53; Radiology; Pathology; Biphasic synovial sarcoma