

Kısa Bilimsel Çalışma / Short Communication

Synovial sarcoma in a dog

Tolga GÜVENÇ, Zafer ÖZYILDIZ, Ümit H. MİLLİ

Department of Pathology, Faculty of Veterinary Medicine, Ankara University, Ankara

Summary: A case of synovial sarcoma in left tarsal joint and metastases of lung at a 10-year-old male mixed breed dog was described. Macroscopically, the tumour mass was 5x4x1.5 cm in size and nodules, 0.5-to-3 cm in size, were seen on the lungs. In microscopical examination, the mass, composed of synovioblastic cells, was diagnosed as synovial sarcoma. Similar tumour cells were seen in the lungs.

Key words: Dog, synovial sarcoma

Bir köpekte sinovial sarkom

Özet: 10 yaşlı melez erkek köpeğin sol tarsal eklemde gözlenen sinovial sarkom olgusu ve akciğer metastazları tanımlandı. Makroskopik olarak, sol tarsal eklem üzerindeki tümör kitlesi 5x4x1.5 cm ölçülerindeydi ve akciğer üzerinde 0.5-3 cm boyutlarında nodüller gözlemlendi. Mikroskopik incelemede, sinovioblastik hücrelerden oluştuğu gözlenen kitleye sinovial sarkom tanısı kondu. Benzer tümör hücreleri akciğerlerde de gözlemlendi.

Anahtar kelimeler: Köpek, sinovial sarkom

Synovial sarcoma is a rarely diagnosed neoplasm of dog (5). It has been reported most commonly in aged, large breed male dogs, which affects the stifle and elbow (4). The tumour spread by local extension along fascial planes and tendon sheaths and by via vascular channels is believed to arise from primitive mesenchymal precursor cells outside the synovial membrane of joints and bursae (4,5). Microscopically, synovial sarcoma is characterized by the synovioblastic component and fibrosarcomatous component (1-5). Both cellular elements are seen in biphasic synovial sarcomas. On the other hand, monophasic synovial sarcomas are composed of only one of these cellular elements, usually the fibroblastic component (6). Cleft formation, giant cells and nodular tumour projections of synovium might be frequently seen as a histologic features of the tumour (1-6).

The aim of this study is to determine the pathological findings of synovial sarcoma encountered in a 10-year-old male mixed breed dog.

At necropsy, the tumour mass on the left tarsal joint was grayish in color, 5x4x1.5 cm in size and in the lungs white in color, round to ovoid in shape masses were observed. Tissue specimens were fixed in 10% buffered

formaldehyde solution and embedded in paraffin wax. Sections were cut at 5-6 µm and stained with haematoxylin and eosin. Immunohistochemically, vimentin, desmin and cytokeratin were used to characterization of the tumour cells. Microscopically, the neoplasm was composed of synovioblastic elements (Figure 1a). Cytoplasm of synovioblastic cells were eosinophilic and nuclei of these cells were large, pleomorphic and vesicular. Tumour cells were separated by thin fibrous septa. Giant cell formations were not seen and mitotic figures were less in number. Immunohistochemically, tumour cells were vimentin and cytokeratin positive but desmin negative (Figure 1b and c). The cytokeratin staining was limited to small clusters of cells but diffusely positive for vimentin. Tumour metastases, composed of similar cells, were seen in the lungs (Figure 2). According to these histopathological and immunohistochemical features, tumour was diagnosed as a synovial sarcoma.

In the literature, giant cells, cleft formations and nodular tumour projections of synovium has been reported (1,2,4,6). However, in this case none of these findings were present. Most of observed synovial sarcomas were biphasic (1,2), but this case was monophasic synovial sarcoma.

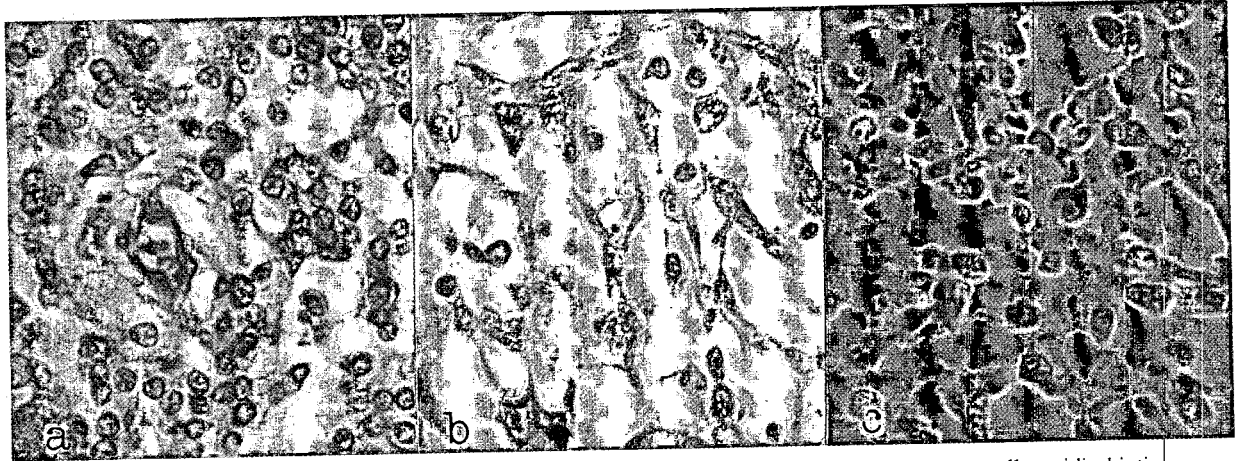


Figure 1. a. Synovioblastic tumour cells on the left tarsal joint. H&E, x260. b. Vimentin positive tumour cells, avidin-biotin peroxidase technique. x260. c. Cytokeratin positive tumour cells, avidin-biotin peroxidase technique. x260.



Figure 2. Metastatic tumour cells in the lung. H&E, x60.

Monophasic synovial sarcomas are usually composed to fibroblastic components (5,6). In the present case, only synovioblastic components were seen. Synovial sarcomas are often locally invasive and metastasis to heart, lungs, kidneys, spleen, liver and regional lymph nodes has been reported (1,2,4). In the present case, only lung metastasis was observed.

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Correspondence address:

Dr. Tolga Güvenç
Ankara Üniversitesi, Veteriner Fakültesi
Patoloji Anabilim Dalı
06110 Dışkapı, Ankara