A CASE REPORT OF AN INTRATHORACIC MYXOSARCOMA IN A DOG.

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Case presentation 'Suzi'

Investigation

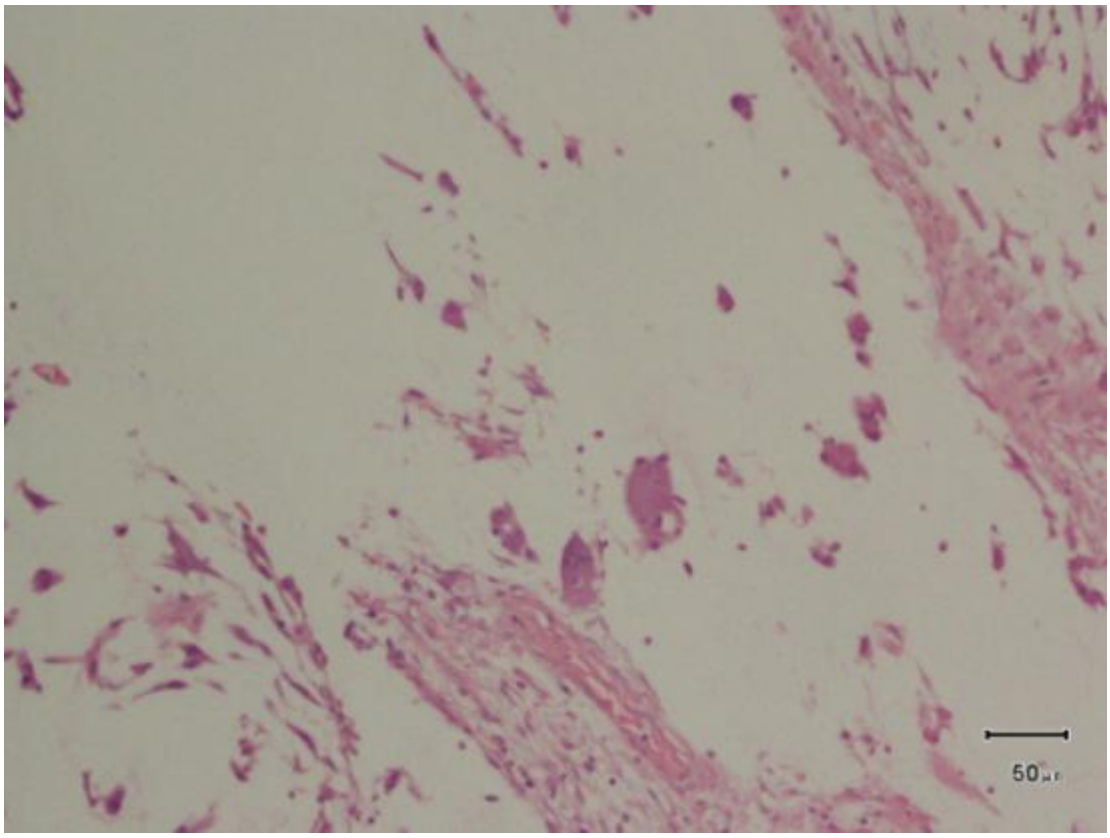
- Cytology of pleural fluid

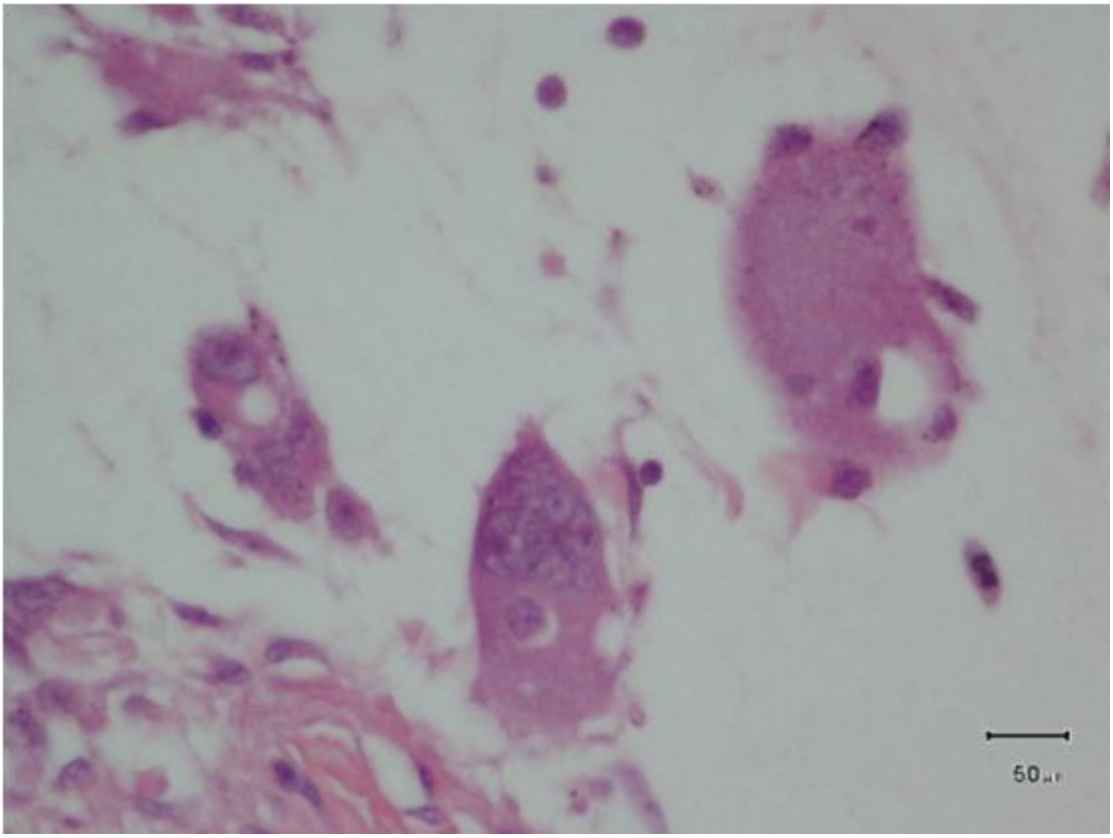
The preparations contain, in a thick pink granular myxomatous matrix background, red blood cells which are showing windrowing and mesenchymal cells, which have a very large, round to angular nucleus, with hyperchromatic coarsely granular basophilic chromatin and one to three large nucleoli. The cytoplasm is deeply basophilic with irregular borders and fine vacuolation. Several binucleated and scattered multinucleated giant cells are observed. Non cohesive clusters are seen in association with extracellular wispy strands of pink matrix material.

o Thoracoscopy (including sampling for biopsy)

Detection of a mass on the surface of the pericardium and smaller masses on the pleura. A biopsy was taken. The owner declined thoracotomy with debulking and opted for euthanasia. The biopsy was submitted for histopathology.

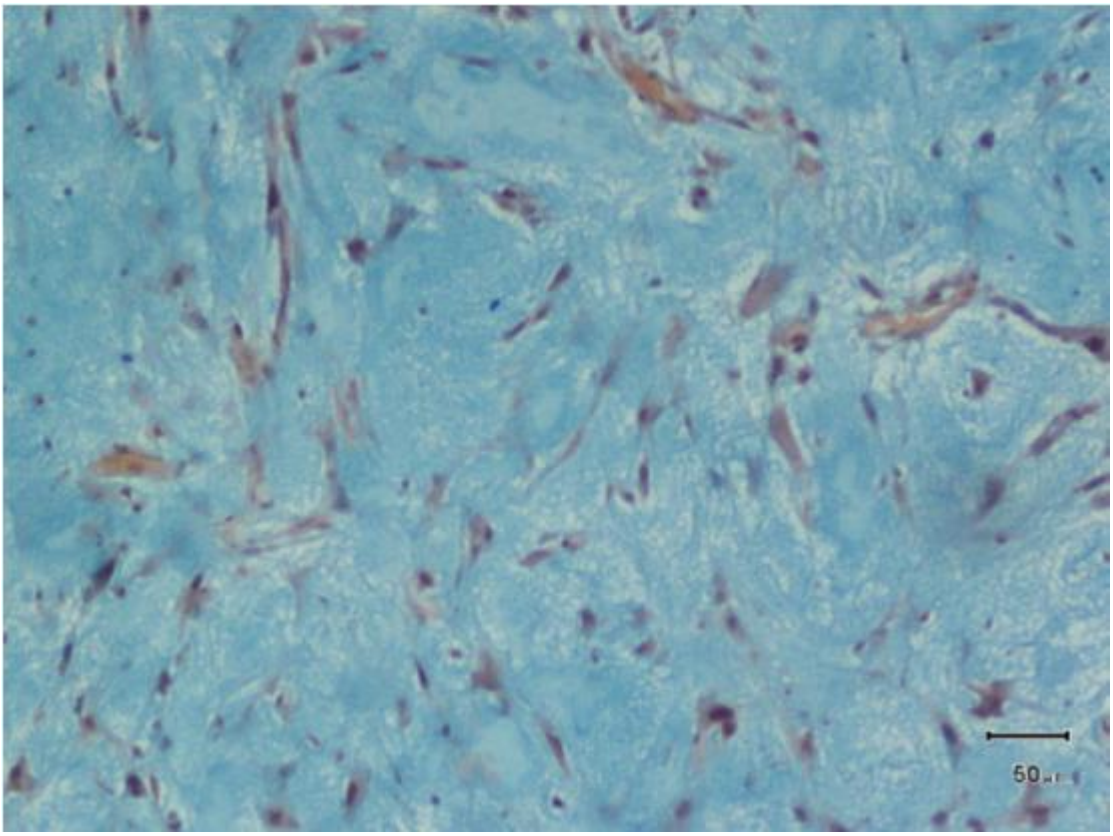
o Histology - H.E. of the biopsy sample



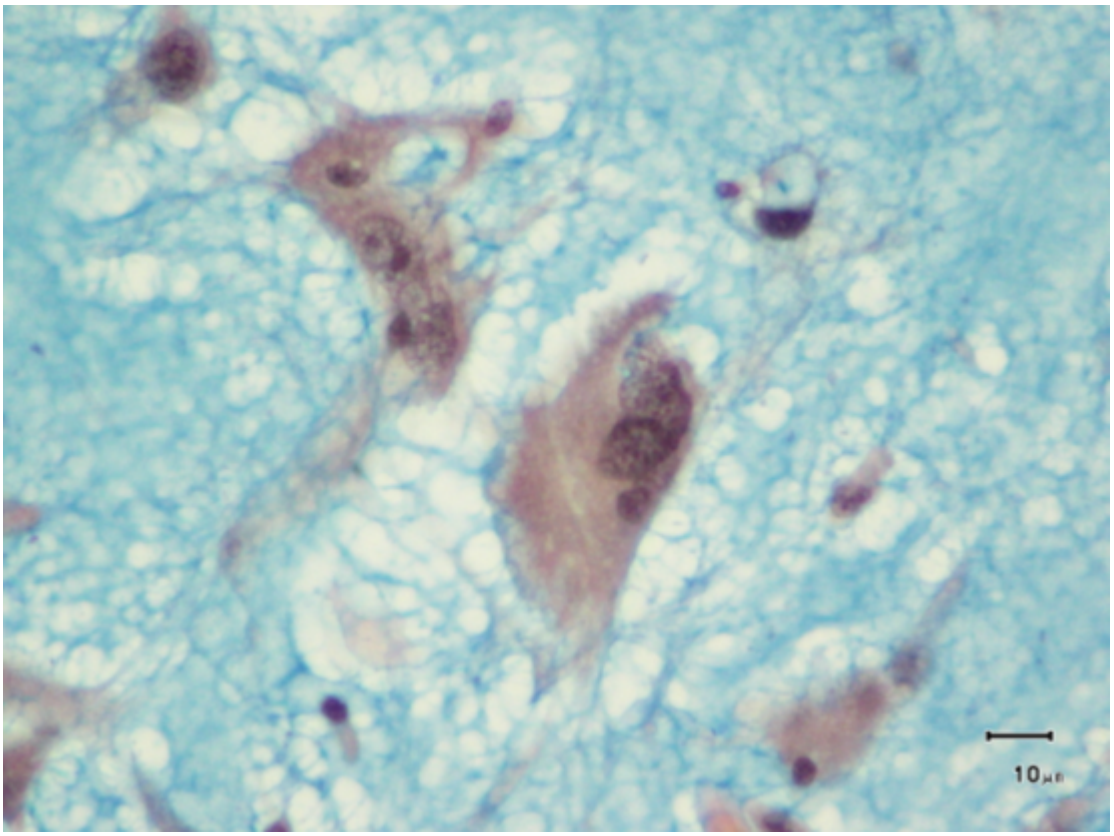


These sections show an infiltrative poorly defined proliferation of spindle to oval cells in an abundant mucinous stroma with areas of branching fibrous proliferation. The cells are loose and show small amounts of wispy dark eosinophilic cytoplasm and oval dense basophilic nuclei with small prominent nucleoli. Moderate to marked anisokaryosis, frequent karyomegally and frequent mitoses with multinucleated cells are seen.

o Special stains: Alcian blue



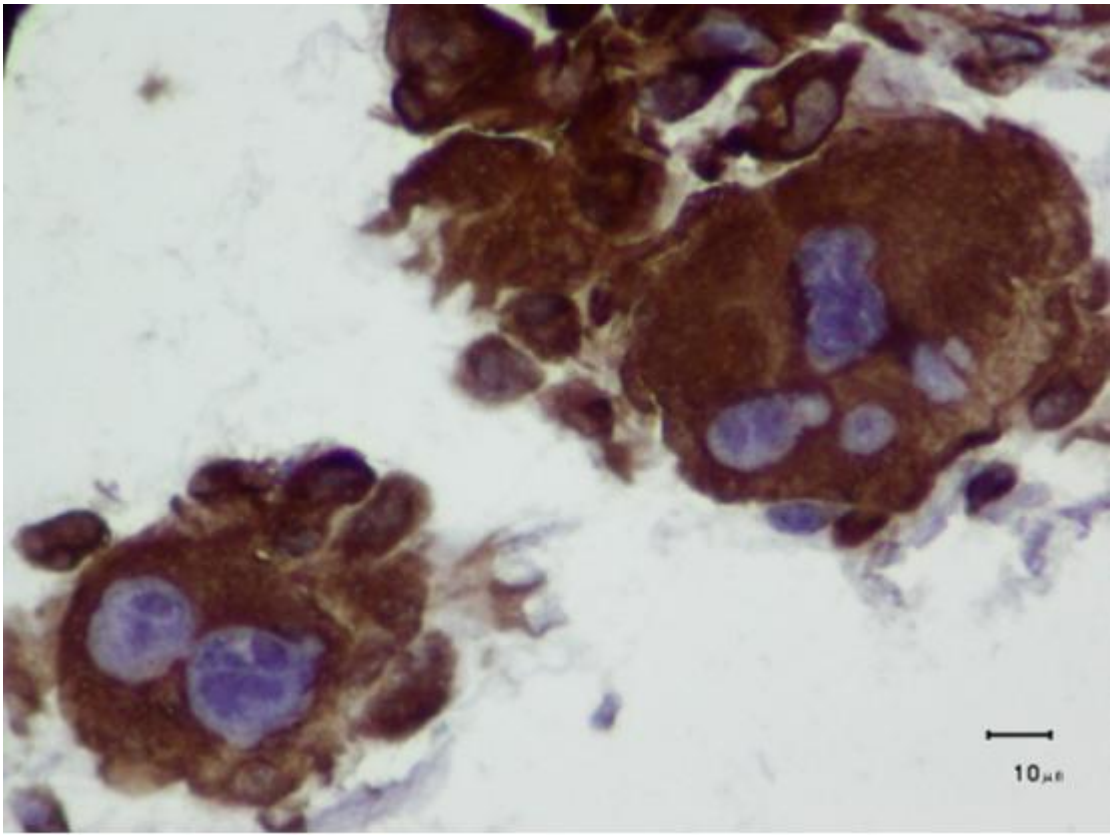
The matrix is staining blue, which is supportive of sulphated mucins.



The multinucleated giant cells are embedded in mucinous background.

The further investigation with PAS and Perls stain showed that the matrix was PAS and Perls negative.

- Immunohistochemistry of the biopsy sample (Vimentin)



The atypical mesenchymal cells stained strongly positive for vimentin.

The tumour cells were weakly positive for desmin, negative for cytokeratin, S-100 and von Willebrand factor.

Diagnosis

The tumour cells are of mesenchymal origin and given the observed atypia, this is supportive of a sarcoma. Given the massive matrix production, this is consistent with a myxomatous soft tissue tumour, therefore the differentials are a myxosarcoma, a myxoid liposarcoma, a myxoid chondrosarcoma or a low-grade myxoid fibrosarcoma.

Discussion

Myxoid soft tissue tumours are rare in domestic animals. They can occur at any site where there is connective tissue. In the dog the skin is the most common site. There are four case reports of cardiac myxoid sarcomas in the dog and only in one other case was a marked myxoid pleural effusion found. In contrast with other locations, where the animals were aged, these tumours were found primarily in young animals. This observation was made also in human medicine, where primary intrathoracic low-grade fibromyxoid sarcomas commonly affect young adults.

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