PRESENTATION OF A CASE OF OSTEOSARCOMA IN A ROTTWEILER BREED DOG

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ABSTRACT

We hereby present an osteosarcoma case in a Rottweiler breed dog, the osteosarcoma being located in the epiphyseal - metaphyseal area of left humerus.
The dog has been submitted successively to clinical, radiologic and cytology investigations, the last one showing the existence of a type of osteoblastic osteosarcoma.
Osteosarcoma is a malignant tumour of the bone tissue usually striking the Canidae, affecting in particular medium and large breeds of dogs, more frequently located at the level of the appendicular skeleton, in the epiphyseal – metaphyseal area of long bones.
The diagnosis in the case of osteosarcoma is found further to a cytology investigation, the sample being taken by means of X-ray guided bone biopsy.
***Key words**: osteosarcoma, cytology investigation, bone biopsy, X-ray guiding.*

INTRODUCTION:

Osteosarcoma is a malignant oncological disease which appears in the bone tissues and is particularly frequent in medium and large breeds of the Canidae (1).
Information in the professional literature concerning the frequency of osteosarcoma diagnosed in Canidae according to the breeds (2), are as follows, large to medium size breeds: German Shepherd (11,29%), Rottweiler (16,94%), Great Dane (8,87%), Boxer (6,45%), *Deutsche Bracke* / German Hound (4,03%). The small size breeds are less frequently affected by osteosarcoma: Pointer (0,81%), Dachshund (1,61%).
Regarding the location of osteosarcoma: they are located both at the level of the axial skeleton (skull, vertebral column) and, particularly, at the level of the appendicular skeleton, as well as there are extraskeletal osteosarcoma (3).
Concerning the frequency of osteosarcoma occurrence there is a a significant difference, namely, 89,51% have been found at the level of appendicular skeleton, and fewer at the level of the axial (8,87%) and even fewer, osteosarcoma with extraskeletal location (1,62%),(4). Regarding location of osteosarcoma in limb bones, a 33,87% frequency was found at the level of long bones metaphysis , 42,74% at the level of long bones epiphysis and 12,9% at the level of long bones diaphysis. (4).

Concerning the osteosarcoma diagnosed Canidae according to gender, professional literature data show the 54,83% are male and 45,17%) are female dogs.
Concerning the age distribution in the development of osteosarcoma, data show that 23,39% of Canidae were between 5 and 7 years old, 3,22% of the Canidae were between 12 and 18 years old, and 73,39% were between 8 and 11 years old.
From the point of view of histomorphology, osteosarcoma may be: osteoblastic osteosarcoma, fibroblastic differentiation osteosarcoma, condroblastic differentiation osteosarcoma and telangiectatic type sarcoma(5).

MATERIAL AND METHOD:

The case presented is that of a female Rottweiler brought to the veterinary consulting–room because of a tumefaction in the left scapulo-humelar area, having a painful response at the thorough palpation of the tumefied area. (fig.1.)
The case-history would indicate that the tumefaction in the scapulo-humeral area occurred two weeks before but, functionally, no limping or movement break was noticed.
The clinical examination was followed by a radiological one, and an alternation was observed between bone lysis areas and those of bone proliferation at the proximal epyphiseal–metaphyseal level of the left humerus. (fig.2.)
After the radiological examination, the dog was anaesthetised by means of neuroleptanalgesia (acepromazina=0,3mg per kg i.m,dillution ketamina – NaCl 0,9% 1mg per 1ml i.v.)
After having the specific effects of anaesthesia in place, the bone biopsy was performed on the anatomy correspondent of the area affected, radiographic film being used for guidance in order to have a tissue sample from the areas with moderate radio transparency. (fig.3.)

RESULTS AND DISCUSSIONS

The result of the cytology investigation show a cito-morphological aspect typical for osteoblastic osteosarcoma (fig.4). In order to have reliable cito-morphological aspects, the sample should be removed and investigated for cytology in compliance with the essential rules of X-ray guided bone

biopsy in order to have samples from the areas of moderate radio-transparency and not from those with increased radio-transparency or radio-opacity.

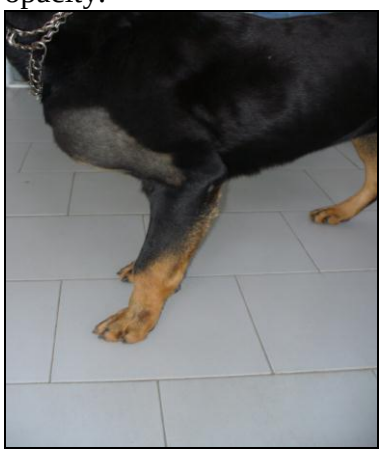

Figure 1. Swelling of the left scapulohumeral region

Figure 2. Performance of fine needle aspiration Biopsy

Figure3. Osteolytic areas alternate with zones of bone proliferation in the epi-metaphyseal region of the bone.

Recommended (green needle) and inadvisable (red needle) biopsy site.

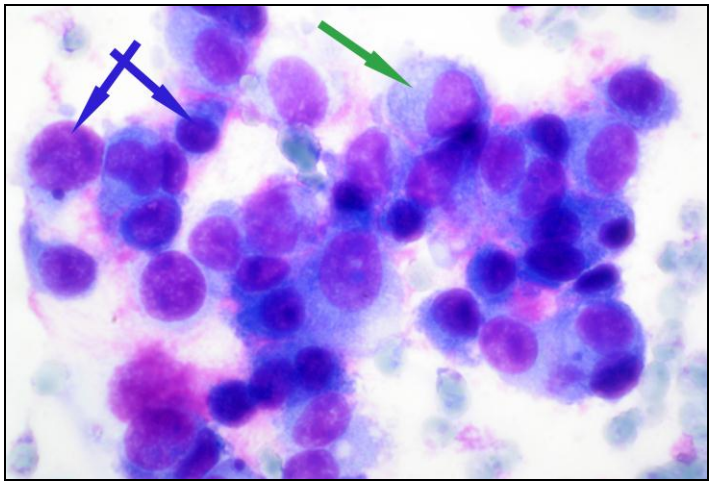

Figure 4. Group of tumor cells with a dysplastic appearance, exhibiting anisokaryosis (blue arrows) and lightly basophilic cytoplasm (green arrow). Cytologic features are typical of osteoblastic osteosarcoma. (May-Grünwald-Giemsa stain, 100x.).

CONCLUSIONS

Osteosarcoma occur in medium and large breed dogs
Osteosarcoma occur more frequently in the epiphyseal – metaphyseal area of long bones
Bone aspiration biopsy is performed successfully by means of X-ray guidance .
The sampling of the material for cytology investigation is made from areas shown on the X-ray film as having moderate osteolysis.

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