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Pathomorphological and immunohistochemical evaluation of osteoid osteoma like osteoblastoma in proximal humerus of a dog: An unusual case

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Osteoid osteoma and osteoblastoma are uncommon benign bone tumor which originated from osteoblasts in animals. There are two clinic reports including mandible in a cat and in humerus in a dog. Both tumors have also similar characteristics. Macroscopically, osteoid osteoma is smaller and extend to soft tissues. Histopathologically, osteoid osteoma is composed of cellular uniformity, sclerotic bone and vascular osteoid tissue. However, osteoblastoma has more extensive lysis and sclerotic areas. In the case, both tumor characteristics were present. By using some markers, differentiation of the tumors was aimed.

12 years old mix breed female dog was submitted into clinic with request of progressive loss of motion and swelling in proximal forelimb. During therapy, animal was died and cadaver was sent to Department of Pathology. After macroscopical examination, samples were taken and fixed in %10 formalin. For histopathology, hematoxylin-eosin, Masson's trichrome and Alizerin Red S staining methods were used. For differentiation, ABC-P was applied to adhesive section by using BMP6, S100, vimentin ve p53 markers.

Macroscopically, proximal humerus was swollen being 12 cm in diameter. Cut section was generally lytic within bone residues. Soft tissue was haemorrhagic and edematous. Microscopically, osteoblasts and hypervascular nidus were surrounded large sclerotic and mineralized bone. Large lytic areas were attended. Masson's trichrome differentiated sclerosis and Alizerin Red S showing osteoid matrix. Immunohistochemically, BMP6 was moderately reacted in osteoid matrix and S100 was moderately reacted with osteoblasts in nidus. Vimentin gave weakly positive reaction in fibrocytes. P53 was negative in osteoblasts.

In conclusion, tumor resembling to osteoblastoma in terms of distribution is a rare case in animals. Immunohistochemistry is not evaluated before ones. The case show that BMP6 and S100 are useful in presence of osteoid matrix and differentiation. P53 proven its to be malignant potential.

Biography

Tuncer KUTLU has worked for Ministry of Food, Agriculture and Livestock between 2007-2011. He has assigned as research assistant to Department of Pathology, Faculty of Veterinary Medicine, Ankara University in 2012. He has been still working at same place since 2012. His PhD Thesis: "Comparative investigation of kidney lesions of canine and feline by pathomorphological and immunohistochemical methods". His main research areas are on neoplasia, pathomechanism of contagious disorders and experimental diseases in laboratory animals. He has been many experiences on special histochemical and immunohistochemical methods.

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