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Short Communication / *Kısa Bilimsel Çalışma*

Oral pleomorphic rhabdomyosarcoma in a dog with the lung metastasis

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Summary: In the study, pleomorphic rhabdomyosarcoma was described in the oral cavity and the lungs in an old dog. After surgical treatment of oral tumor, the mass was recurred in oro-maxillar region and metastasis to the lungs. In microscopic examination, neoplastic cells had eosinophilic cytoplasm, their nuclei were large, round to oval, and vesicular. They had prominent nucleoli.

Key words: Dog, metastasis, pleomorphic rhabdomyosarcoma.

Bir köpekte akciğer metastazlı oral pleomorfik rabdomiyosarkom

Özet: Bu çalışmada yaşlı bir köpekte ağız boşluğu ve akciğerlerde pleomorfik rabdomiyosarkom belirlendi. Oral tümörün cerrahi tedavisi sonrasında kitlenin aynı bölgede yeniden şekillendiği ve akciğerlere metastaz yaptığı görüldü. Mikroskobik incelemede, neoplastik hücrelerin eozinofilik sitoplazmalı, çekirdeklerinin büyük, yuvarlak-oval şekilli ve veziküler tarzda olduğu görüldü. Hücrelerin çekirdekçikleri belirgindi.

Anahtar sözcükler: Köpek, metastaz, pleomorfik rabdomiyosarkom.

Sarcomas that develop from connective tissues in the body, such as muscles, fat, bones and membranes. Rhabdomyosarcoma (RMS) is a type of sarcomas made up of cells that normally develop into skeletal muscles (1, 9, 13). Althought several reports about canine rhabdomyosarcoma have been published especially on cardiac, laryngeal and urogenital forms (3, 7, 8, 10, 13, 15) and also oral tumors have been moderately common observed in dogs (5), the oral cavity tumors of rhabdomyosarcoma has been quite limited (4, 9, 11, 12). There are several types of rhabdomyosarcoma. One of them is pleomorphic rhabdomyosarcoma (also called anaplastic rhabdomyosarcoma) that occurs in adults (9). This uncommon cancer tends to grow quickly and usually require intensive treatment. The prognosis are poor most of the time (1, 13).

The aim of the present study was to set the growing and dissemination of rhabdomyosarcoma rared oral tumor from the aspect of surgery and pathology.

A 13 years old, male, Terrier dog presented to the clinic with complaints of anorexia and severe halitosis for 2 months. Clinical examination revealed a hard swelling on its left buccal region. Dog was not sensitive to palpation of the cheek. CBC and serum biochemistry were in normal limits. Radiographic examination of the mass revealed that there was a deformation on the maxilla.

For the surgery, general anesthesia induced using propofol (4 mg/kg, IV, Propofol, Fresenius Kabi) and maintained with Isoflurane (Forane, Abbott, UK) delivered though in 100% oxygen by intubated with 6 mm endotracheal tube (14). The mass was removed after making the skin incision between the first premolar and the second molar teeth levels of bucca (Figure 1). The weight of the mass was 16 g and diameters were 5x3,5x2 cm. It had an elastic consistency. The cut surface was multilobuler, grayish white in color and necrotic in appearance. Amoxicillin-clavulonic acid (20 mg/kg BID, oral, Amoklavin, Deva, Turkey), carprofen (2 mg/kg, oral, BID, Rimadyl, Pfizer) and famotidine (1 mg/kg, oral, BID, Famodin, İlsan, Turkey) prescribed post-operatively. Chlorhexidine gluconate oral rinse (three times daily, oral, Klorhex) recommended as an oral antiseptic solution. In spite of the dog recovered quickly without complications after surgery, the tumor recurred on the same area of maxillar region 3 months later. In clinical examination, the new mass was a rock-hard and invasive to the maxilla. It was also observed radiopaque

metastatic areas were widely disseminated on the lungs by X-ray exam (Figure 2). Take into consider of the dog's general condition, the euthanasia was elected.

At necropsy, the mass which had firm consistency and 3x2x1 cm in diamater was observed on maxilla. Multiple nodular metastasis noticed in lungs. The central portions of the nodules were hemorrhagic and necrotic (Figure 3). Pathological findings weren't observed in other organs.

Tissue samples taken from mouth and lungs were fixed in 10% formalin. Formalin fixed tissues were prepared and stained with hematoxylin and eosin (HE) and Masson's trichrome. In microscopic examination, the shape of neoplastic cells were plump or spindle. Nuclei are large, round to oval, and vesicular and have prominent nucleoli. Neoplastic cells have eosinophilic cytoplasm. Few mitotic figures and multinucleated cells were present. There was minimal connective tissue (Figure 4,5). Edema fluid within alveoli was observed around the metastatic area on the lungs. (Figure 6).

Figure 1. The mass that invasive to maxilla.
Şekil 1. Maxilla'ya invaze olmuş kitle.

Figure 2. Metastatic radioopac areas in bilateral lungs x-ray.
Şekil 2. Bilateral akciğer radyografisinde metastatik radyoopak alanlar.

Figure 3. Metastatic focuses in lung.
Şekil 3. Akciğerde noduler metastatik odaklar.

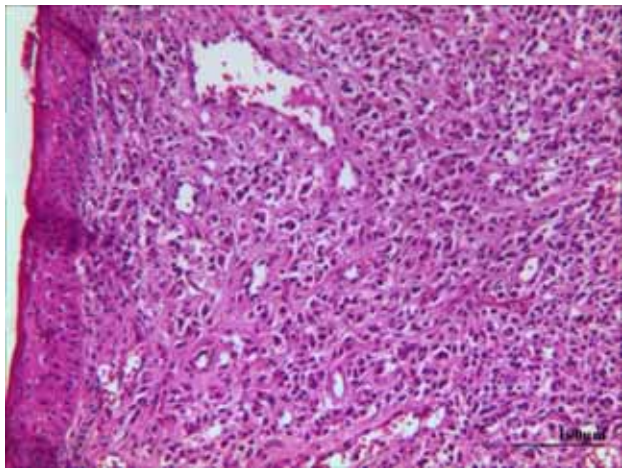

Figure 4. Appaerance of pleomorphic cells in oromaxillar mass (HE).
Şekil 4. Oromaksillar kitlede pleomorfik hücrelerin görünümü (HE).

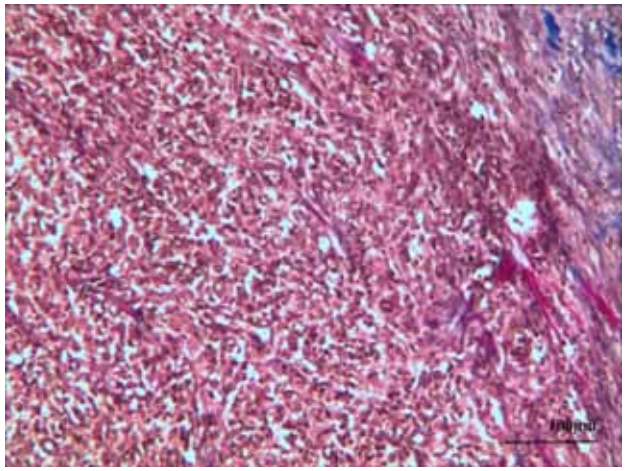

Figure 5. Appaerance of pleomorphic cells in oromaxillar mass (Masson's Trichrome).
Şekil 5. Oromaksillar kitlede pleomorfik hücrelerin görünümü (Masson's Trichrome).

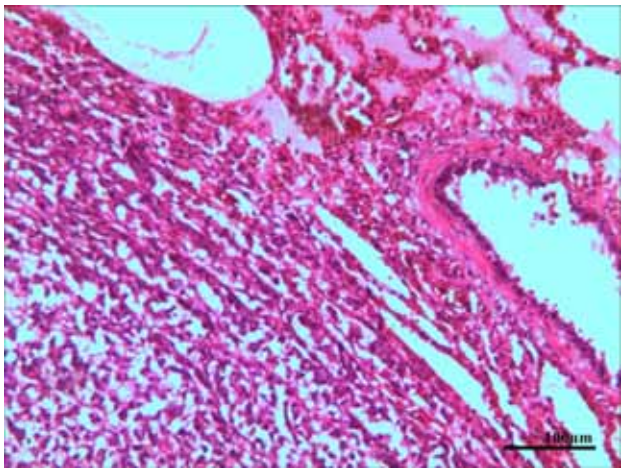

Figure 6. Apparence of pleomorphic cells in lung tissue (HE).
Şekil 6. Akciğer dokusunda pleomorfik hücreler (HE).

Beck et al (2) and Lascelles et al.(11) reported that rhabdomyosarcomas could be occured within striated muscle, pharynx, tongue, gingiva, urinary bladder, cardiac muscle, larynx, greater omentum, urethra, skin, and trachea in dogs. They are invasive neoplasms with potential to metastasis, especially to lungs, lymph nodes, heart, spleen, adrenal glands, kidneys and skeletal muscles (5). In this case report, oral pleomorphic rhabdomyosarcoma was presented with severe lung metastasis in an old dog. In contrast showed no evidence of metastasis in other organs.

Gandi and Vivekanand (6) emphasized rhabdomyosarcomas had a poor response to chemotherapy and radiation therapy. Even in some cases had been reported that tumor growth had increased rapidly after surgery, radiation therapy and chemotherapy (11). After surgery of the tongue rhabdomyosarcoma, the dog recovered her bark, but the tumors reoccurred in the nasopharyngeal and lingual regions nearly 10 months later, and euthanasia was elected (4). In this study, radiotherapy and chemotherapy treatments could not be given to dog because of its old age and poor general condition. Nevertheless, tumor regrowth occurred in the 3rd month.

In conclusion, oral pleomorfic rhabdomyosarcoma with the lung metastasis case to be observed in an old dog has been defined in detail including surgical and pathological findings.

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