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CASE REPORT

A Cutaneous Myxoma Case in A 12-Year-Old Boxer

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Summary

Our case is a 12 year-old boxer male dog which is admitted to University of Istanbul Faculty of Veterinary Medicine, Department of Surgery with a complaint of a swelling on its head. On physical examination the swelling is found to be located on frontal bone, as big as an orange, hard in consistency and immobile; also there were masses on left lower eye lid, right elbow and in oral cavity. Surgical removal was offered. Histopathologic examination revealed that mass on cranium was cutaneous myxoma, on elbow was dermoid cyst, on eye lid was meibomian epithelioma and in oral cavity was epulis. Cutaneous myxoma case which is encountered at 12 year-old boxer male dog, with known tendency to tumours, is presented to physicians who deal with small animal practice because of its rare localization and clinical appreance.

Keywords: *Cutaneous myxoma, Veterinarian, Dog, Boxer*

Bokser Irkı 12 Yaşlı Bir Köpekte Rastlanan Kutanöz Miksoma Olgusu

Özet

Olgumuzu İstanbul Üniversitesi Veteriner Fakültesi Cerrahi Anabilim Dalı Kliniği'ne başının üzerinde bir şişkinlik olduğu şikayetiyle getirilen, 12 yaşında Bokser ırkı erkek bir köpek oluşturdu. Yapılan klinik muayenede kitlenin, os frontale üzerinde, portakal büyüklüğünde, sert kıvamlı ve alt dokulara sıkıca yapışık olduğu, ayrıca sol alt göz kapağında, sağ dirsek üzerinde ve ağız içinde de kitleler bulunduğu belirlendi. Operasyon önerildi. Histopatolojide cranium üzerindeki kitlenin, kutanöz miksoma, dirsektekinin dermoid kist, göz kapağındakinin meibomiyan epiteliyoma, ağızdakinin ise epulis olduğu belirlendi. Tümöre yatkınlığı ile bilinen bokser ırkı olan 12 yaşında erkek bir köpekte rastladığımız kutanöz miksoma olgusu ender rastlanan lokalizasyonu ve klinik görünümü yönüyle değerlendirilmiş ve özellikle küçük hayvan pratiği yapan hekimlerin dikkatine sunulmuştur.

Anahtar sözcükler: *Kutanöz miksoma, Veteriner, Köpek, Bokser*

INTRODUCTION

Myxoma is, as general, a soft tissue tumor. It is first described by Virchow at 1863 to be able to define neoplasia which resembles the umbilical cord structure [1]. Myxoid tumors may be extremely in different structures that are characterized with extensive mucine accumulation in the extracellular matrix. Clinically as well as they may be benign in character, they may be locally recurrent without metastasis or malignant in character with tendency to metastasis [2]. Therefore, there are several denomination of myxomas such as intramuscular myxoma, juxtaarticular myxoma, angiomyxoma and neurothekeoma [1].

Myxoma, is a rare tumor type in animals [3,4]. There are case reports in which these neoplasm are reported at heart [5,6], lung [7], spleen [8], spinal cord [9], skin [10], skeletal muscle [11], liver and bone [12].

Etiology of these tumors are unknown [1]. Genetics, envorimental factors, carsinogenic drugs or miscellenous toxic substances are reported to be a causative factor for these neoplasms [13].

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Myxoma is mostly seen in adult or elderly animals and although there is no sex predilection, it is supposed that Doberman pincher and German shepherd dogs have a racial predisposition [4,10]. In veterinary practice there are reported myxoid tumors with different localization such as cardiac, odontogenic and synovial myxomas [5,6,14-18]. Although there are reported cases at cows and birds [13,18] there has been no reported case at dogs yet.

Cutaneous myxoma is one of the myxoid tumors and is considered to be a benign neoplasm of dermal or subcutaneous fibroblast origin. Although, it is reported to be a fibroma by some researchers because it is derived from fibroblasts, cutaneous myxoma is differentiated from fibromas with its extensive intercellular mucine accumulation [12]. This neoplasm may be locally infiltrative or invasive [14].

These masses are seen at extremities, back and groin [14]. Clinically cutaneous myxomas may be hard, elastic or soft in consistency. As well as they are sporadic they may be a component of a systemic illness (eg. endocrine disorders, cardiac myxoma, Carney complex) [2,19,20]. Cutaneous myxomas are reported to have 20-25% local recurrence rate when excision of the tumor is incomplete [1,2,21]. Also it is reported that cardiac myxoma in humans may be recurrent as cutaneous myxoma [19]. Cutaneous myxoma case which is encountered at 12 year-old boxer male dog, with known tendency to tumours, is submitted to veterinary surgeons who deal with small animal practice because of its rare localization and clinical appreance.

CASE HISTORY

A 12-year-old boxer male was presented to University of Istanbul Faculty of Veterinary Medicine, Department of Surgery for evaluation of a mass on its head. The owner had revelaed that the mass was first noticed 4 months ago and since than continued to enlarge and the dog has lost his appetite since last week. On physical examination the mass is found to be located on frontal bone, as big as an orange, hard in consistency and immobile *(Fig. 1A)*. On laterolateral X-ray the mass was infiltrating the frontal sinus and caused osteolysis in adjacent bones *(Fig. 1B)*. On the further examination there were masses also on left inferior eye lid, around right elbow and on gingiva. Radical surgical excision was offered to the owner.

Preoperatively blood analysis revealed that red blood cell count is at the lower range (5.56X 106 µL) and hemoglobin (10.3 g/dl) and hematocrit (34 %) values were lower than normal value and supportive treatment for anemia was done. Anaesthesia induction was started with propofol 6 mg/kg/IV (Diprivan®, AstraZeneca,Turkey). General anesthesia was proceeded with isoflurane (Forane®, Baxter, Turkey) following endotracheal entubation. During operation it was noticed that the mass on cranium

Fig 1. A - Preoperative appearance of the tumor. **B -** Radiograhical appearance **C -** Dark-brown gelly like material. **D -** Postoperative radiographic appearance

Şekil 1. A - Kitlenin preoperatif görünümü **B -** Radyografik görünümü. **C-** İntraoperatif olarak koyu kıvamlı müköz karakterli içerik. **D -** Post-operatif radyografik görünüm

was filled with a dark-brown gelly material *(Figure 1C)* and total extripation was done *(Fig. 1D)*.

Macroscopically, the excised mass from the head, measuring 4x2x0.5, 5x0.6x2 cm was in muscle tissue consistency, 2.3x1.8x0.4 cm measuring was in bone stiffness. The sample which has been taken from the right elbow level measuring 1.8x4.8x2.5 cm was covered by skin and the cut surface was in muddy appearance. The excised mass from the inferior eye lid measuring 0.7 cm diameter was black in color and in medium firmness. And the mass on the gingiva, measuring 2.3x1.1x0.3 cm was hard in consistency, the cut surface was white in color and hd ulcers on it. Histopathologically a myxoid tumor without exquisite borders, which welded from deep dermis layer, infiltrate into subcutis, muscle and bone tissues was observed. In the poorly cellular myxoid stroma; mesenchymal cells with ovoid nuclei, scant cytoplasm and stary shapes were determined (*Fig.2A, 2B* and *2C*). In the tumor pattern a few mitosis, focal vascularisation which are branching in some areas, and epithelial bands which were formed by cramping of adnexial structures by myxoid stroma were observed.

On the histopathologic examination of other tumoral tissues, ossifying epulis *(Fig. 2D)* on gingiva, dermoid cyst *(Fig. 2E)* on elbow, and meibomian epithelioma *(Fig. 2F)* on eye lid were determined.

Postoperatively antibiotherapy was administered for a week (Cefazolin sodium, Cefamezin 1000 mg, Eczacıbaşı®). After ten days sutures has been removed. At physical examination done one mounth later, the operation region and patient's condition was fine.

DISCUSSION

In veterinary practice there are case reports on myxomas encountered primarily at heart but also lung, spinal cord, spleen, skin, skeletal muscle, liver and bone [5-12]. However, cutaneous myxoma was only reported at cattle and birds [13,19].

Adult or aged animals were observed to be the most affected animals by the neoplasm [12]. Our case was 12 year-old, consistent with the literature. Although myxoid tumors have no sex predilection, German shepherd dogs and Doberman pinchers are thought to be the suspectible races [21]. In the present case, the patient was a male Boxer. During our research, there is no literature found about cutaneous myxoma seen in boxer which have a tumor propensity. Thus, we wanted to point out its' rarity. Muller et al.[10] reported that these neoplasms may occur more frequently on the limbs, the back or the

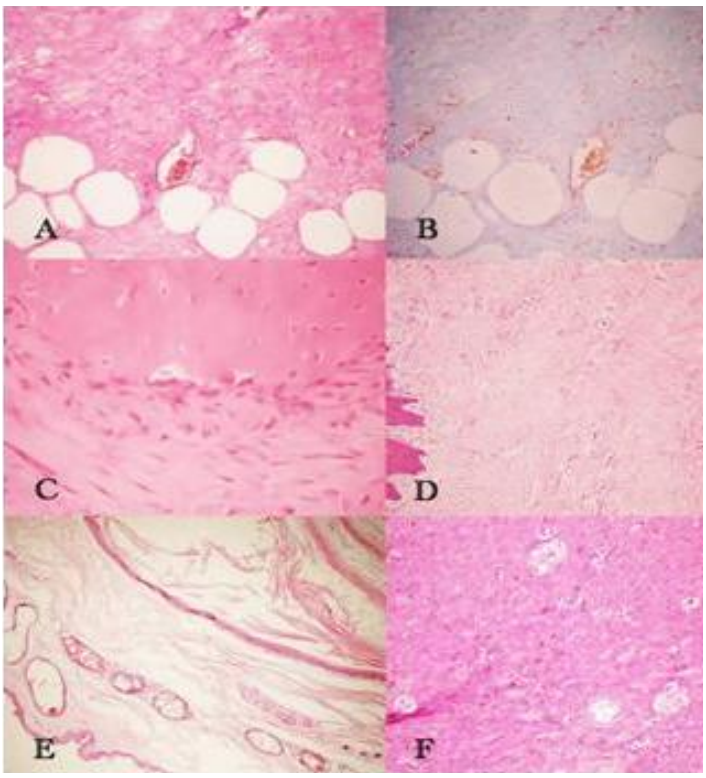

Fig 2. A - Poorly cellular myxoid stroma, tumor on occipital bone H.E. x200 **B -**Tumor stroma, myxoma, tumor on occipital bone Alcian Blue x200. **C -** Infiltration of myxoma into the bone tissue, tumor on occipital bone H.E., x400 **D -** Fibromatous and ossifying epulis, gingiva H.E. x100 **E -** Dermoid cyst, elbow H.E. x50 **F -** Meibomian epithelioma, eye lid H.E. x200

Şekil 2. A - Hücreden fakir miksoid stroma, oksipital kemik üzerindeki tümör H.E. x200 **B -**Tümör stroması, miksoma, oksipital kemik üzerindeki tümör Alcian Blue, x200 **C -** Tümörün kemik dokuya infiltrasyonu, oksipat kemik üzerindeki tümör H.E. x400 **D -** Fibromatöz ve ossifiye epulis, diş eti H.E. x100 **E -** Dermoid kist, dirsek H.E. x50 **F -** Meibomiyan epiteliyoma, göz kapağı H.E.x200

groin. In our case, the tumor was on the cranium which is a very rare location in respect to literature.

Although myxoma is reffered as fibroma in some literature, the most significant difference between them is mucin accumulation in the intercellular matrix [12]. In our case, the lesion's content was dark-brown viscous mucin which indicates macroscopically that it is a myxoma.

Gupta et al.[15], reported that the dark-brown colour is due to continous haemorrhage into the tumor which is highly vascularized, which might have resulted in anaemia. We suppose that anemia of our patient was because of this.

Cutaneous myxoma is defined macroscopically as soft, mucoid, well demarcated mass without a capsule [1,10,12,17]. In the physical examination the mass on the cranium found to be hard in consistency and fixed to the underlying tissues. With this aspect it is inconsistent with the literature. But during operation the mass found to be filled with very viscous mucoid material and had no capsule. It is supposed that this very dense content have caused the hardness on palpation and negative punction done preoperatively.

In our case mass caused osteolysis at frontal bone. This agressive behaviour was consistent with the tumor's locally invasive growth reported in literature [14].

It is reported that on microscopic examination there is no or limited mitotic activity in these neoplasm [4,16,17]. In our case limited mytosis, focal vascularization with some branching and epithelial bands formed from adnexial structures embedded in myxoid stroma. In the lesion there was a structure, derived from dermis, in myxoid character without sharp margins infiltrating subcutaneous tissue, skeletal muscle and bone *(Fig. 2D)*. These histopathologic findings are consistent with the literature [15].

Cutaneous myxomas are generally benign in character [4,10,13] and no recurrence is expected after total surgical exicion. In our case no recurrence was observed 3 months after the operation. But the owner of the patient informed us that the patient died because of cardiopulmonary failure due to its age.

Although our 12 year-old case, which had undergone to extirpation of dermoid cyst on elbow, meibomian epithelioma on eye lid and epulis on gingiva, is known with its predisposition to neoplasia; cutaneous myxoma at frontal region is represented to physicians dealing with small animals because of its rarity and atypical location.

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