

Tracheal adenocarcinoma and surgical treatment

in a cat

ABSTRACT

Primary tracheal malignant neoplasms are rare in dogs and cats. Mostly seen in middle-aged to older cats. Clinical findings associated with airway obstruction are observed such as shortness of breath, wheezing, cough, and cyanosis. The material of this report is a 12-year-old, 6.3 kg, castrated male cat brought to Istanbul University-Cerrahpasa, Faculty of Veterinary Medicine, Department of Surgery due to with symptoms of cough and difficulty breathing. In the anamnesis, it was learned that the patient's tracheal mass was removed by operation 8 months ago in another clinic. As a result of the clinical and radiographic examinations, it was observed that the tracheal mass recurred. The mass was removed by tracheal ring resection. The histopathological result of tracheal mass was determined as adenocarcinoma.

Keywords: Cat, recurrence, tracheal adenocarcinoma, tracheal ring resection

INTRODUCTION

Primary malignant tumors of the trachea are rarely seen in cats and dogs (Dugas et al., 2011). Lymphosarcoma, adenosarcoma, squamous cell carcinoma, carcinoma, seromucinous carcinoma are among the tracheal tumors observed in cats. (Brown et al., 2003; Miller et al. 2020). The most common of these tumors is lymphosarcoma (Dugas et al., 2011). The long-term prognosis of cats with tracheal masses is not well known (Green et al., 2012).

Generally, tracheal tumors grow slowly and are not clinically evident (Howard et al., 2017). In cats with tracheal tumors, nonspecific respiratory tract findings such as breathing difficulties, wheezing, exercise intolerance, and cough are observed (Howard et al., 2017). Other clinical findings include lethargy, weight loss, intermittent cyanosis, and collapse (Azevedo et al., 2017). Most of the primary tracheal tumors in cats are seen radiographically as prominent solitary intratracheal masses (Dugas et al., 2011).

Within limited knowledge, tracheal tumors appear to be tumors with low metastasis that require aggressive local treatment (Green et al., 2012)

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Case Report

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CASE REPORT

Twelve years old, 6.3 kg weight, castrated male cat was brought Istanbul University-Cerrahpasa, Faculty of Veterinary Medicine, Department of Surgery due to cough and respiratory distress that has been present for 2 weeks. In the anamnesis, it was learned that the patient was taken to another clinic with a similar complaint 8 months ago and operated due to a tracheal mass.

Physical examination revealed that the color of the mucosal membrane was normal, the body temperature was 38.1 ° C, the capillary filling

time was less than 2 seconds and there was no pain on abdominal palpation. During the blood draw, cyanosis was observed in the patient. No remarkable differences were seen in routine hemogram and biochemistry examinations of blood.

The X-ray examination of patient revealed a mass irregular borders at C4 level and narrowing of the tracheal lumen. When compared with the X-ray of the patient 8 months ago, it was understood that there was a recurrence at the same location (Figure 1A and B).

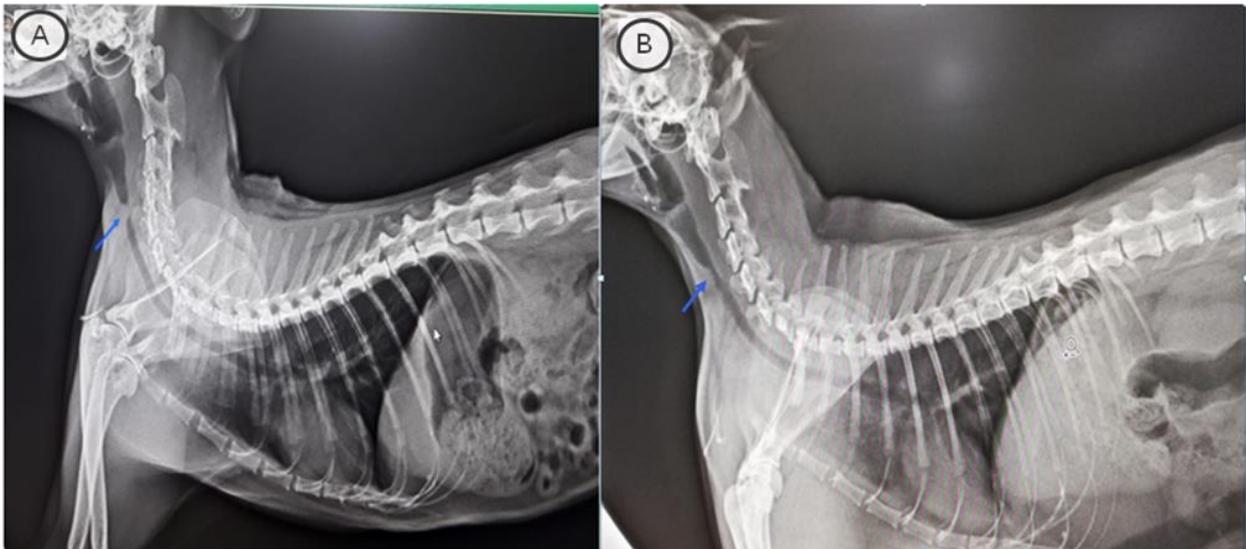


Figure 1. A. X-ray before the first operation, the mass indicated by arrow. B. X-ray taken when the patient was brought to our clinic, the appearance of the recurrent mass was observed in the same area.

Magnetic resonance imaging (MRI) was performed to determine the exact location and boundaries of the mass and the operative planning. According to the MRI examination, it was seen that the mass was 12.9 mm caudal to the larynx, 6.6 mm in width and 7.9 mm in length (Figure 2). It was decided to surgically remove the mass by tracheal ring resection.

The patient was anesthetized with 7 mg/kg propofol (Propofol-Lipuro 1%®, B. Braun, Germany). Tracheal intubation was performed with a size 3.5 intubation tube. Anesthesia was continued with 100% oxygen and isoflurane (Isoflurane®, Adeka, Turkey) by an anesthetic

device. Ceftriaxone (Novosef®, 30 mg/kg, Sanofi İlaç, Turkey) administered intravenously and meloxicam (Melox®, 0.2 mg/kg, Nobel İlaç, Turkey) subcutaneously. Isotonic serum (Polifleks®, Polifarma İlaç, Turkey) at a dose of 10ml / kg / hour was given during the operation.

The patient was positioned dorsally and the trachea was reached by making a skin incision through the caudal side of the larynx. After that, the intubation tube was removed and anesthesia was maintained with propofol. The mass, whose location was determined before the operation, was removed by tracheal ring resection. After

the anastomosis, the patient was intubated again and anesthesia was continued with isoflurane.

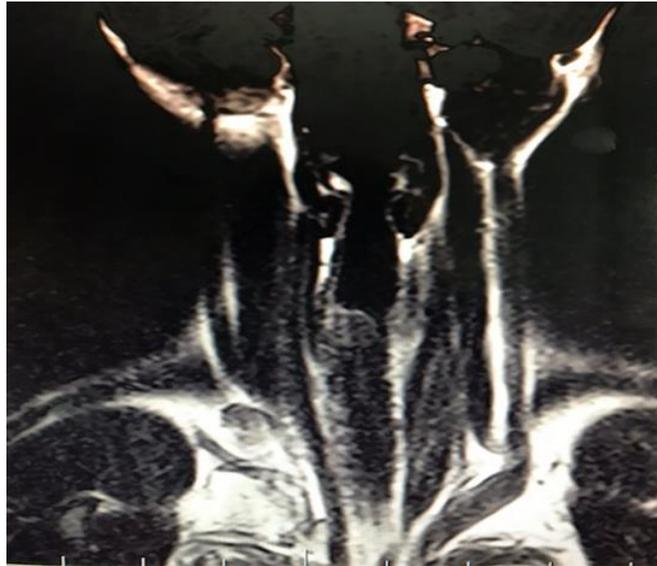


Figure 2. MR image of Case. The mass in the tracheal lumen, caudal to the larynx in the coronal plane is indicated by the arrow.

Postoperatively, meloxicam (Melox®, Nobel İlaç, Turkey) at a dose of 0.2 mg/kg for the first 2 days and ceftriaxone (Novosef®, Sanofi İlaç, Turkey) at a dose of 30 mg/kg for 6 days was used. The clinical examination findings were normal on the 3rd and 10th postoperative days. No postoperative complications were observed.

The mass was reported to be adenocarcinoma after histopathological examination. In the histopathological examination, proliferation in cystic and atypical gland structures in the trachea, marked pleomorphism of neoplastic epithelial cells, cystic and dilatative changes in the glands was reported (Figure 3A and B).

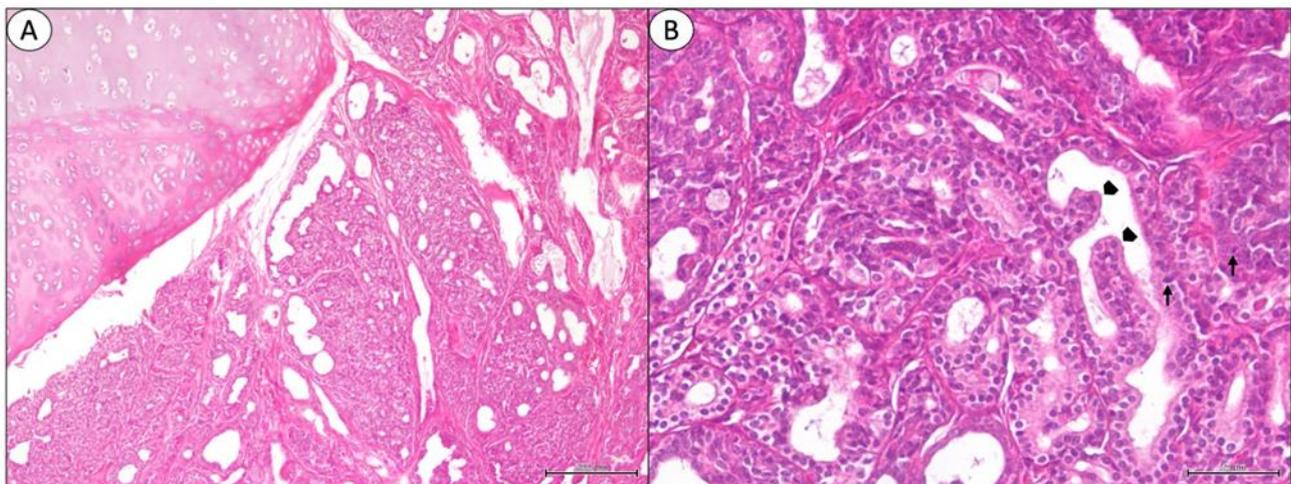


Figure 3. Histopathological appearance of case. A. Proliferation of cystic and atypical gland structures. H&E. bar = 200 μ m. B. Marked pleomorphism of neoplastic epithelial cells, cystic and dilatative changes of the glands, papillary proliferations (arrowheads), and mitotic figures (arrows) are visible. H&E. bar= 50 μ m.

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Ethical approval: Permission was obtained from the patient owner on 20.10.2019 with a "treatment and information consent form"

Conflict of interest: There is no conflict of interest between the authors.

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