METASTATIC THYROID CARCINOSARCOMA IN A FOUR-YEAR-OLD DOMESTIC SHORT HAired CAT

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SIGNALMENT AND CLINICAL PRESENTATION

A four-year-old, male neutered, domestic short haired cat presented with:

- Two weeks history of anorexia.
- A firm, non-mobile right sided ventral neck mass of unknown onset.

DIAGNOSTIC FINDINGS

- Feline T4: <12.9 nmol/l (ref.: 15 - 50).
- Neck ultrasound: right thyroid mass (Fig.1), a smaller left thyroid mass and bilateral retropharyngeal lymphadenomegaly
- Cytology of the right thyroid mass: mixed neutrophilic inflammation.
- Haematology, biochemistry, ionised calcium and abdominal ultrasound: non-specific changes.

The patient was started on a 7-day course of amoxycillin-clavulanate (25 mg/kg, PO q12hours) with no clinical improvement.

Figure 1. Ultrasound of the right thyroid mass measuring 3.2 x1.8cm with heterogenous appearance and speckled mineralisation.

TREATMENT

- Right-sided thyroidectomy and right medial retropharyngeal lymph node extirpation.

The right thyroid mass was connected via the thyroid isthmus to the left thyroid mass which was not excised. Following histopathology and immunohistochemistry results (Fig. 2) the patient received:

- 2 x **Doxorubicin** (1 mg/kg, IV q3weeks).

After the second dose the patient developed left-sided Horner's and progressive disease was identified via neck ultrasound and thoracic radiographs (Fig. 3).

He then received:

- **Toceranib phosphate** (2.5 mg/kg, PO M-W-F).

Figure 2. Photomicrographs of the right thyroid mass. The neoplasm was composed of both an epithelial population forming tubulopapillary structures and a spindle cell population forming streams. Both populations exhibited features of malignancy. HE stain, 100x magnification. (A). The epithelial population immunohistochemically labeled with cytokeratin, 100x magnification (B) and thyroid transcription factor-1 (TTF-1), 200x magnification (C). The spindle cell population labeled with vimentin and negatively labeled with cytokeratin and TTF-1 (not shown). The same neoplasm partially effaced the retropharyngeal lymph node.

DIAGNOSIS

Thyroid carcinosarcoma with retropharyngeal lymph node metastasis

OUTCOME

Within one week of starting toceranib phosphate the patient presented with anorexia and dysphagia, considered secondary to mass compression. Despite supportive care, acute deterioration followed. Humane euthanasia was performed 2 months after surgery.

CLINICAL SIGNIFICANCE

To our knowledge, this is the second case of a thyroid carcinosarcoma in a cat reported in the literature, the first with documented metastasis and where treatment was attempted.

Figure 3. Inflated right lateral thoracic radiograph showing diffuse pulmonary nodular pattern with evidence of concurrent chronic lower airway disease.

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