PITUITARY CHROMOPHOBE CARCINOMA IN A DOG: CLINICAL, TOMOGRAPHIC AND HISTOPATHOLOGICAL FINDINGS

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A 9 year old, male mixed-breed dog was presented for evaluation of oral dysphagia and progressive aggressiveness towards the owner and the operators.
The aim of this work is to describe clinical, tomographic and histopathologic features of pituitary chromophobe carcinoma in a dog.
At the clinical examination the patient was normothermic, polypnoic (>50 apm) and tachycardic (>140 bpm). The neurological evaluation revealed normal postural reaction and normal cranial/spinal reflexes, mental depression, aggressiveness and crotaphyte muscles atrophy. Due to the impossibility to establish a specific neuronal localization, the diagnostic procedure included blood analysis with leukocyte formula, chest x-rays and abdominal ultrasound, with no relevant findings detected. Due to the aggressiveness and the mental depression after five days the patient was referred for brain Magnetic Resonance Imaging (MRI). MRI revealed an intense ventricular asymmetry, discrete left deviation of the *falx cerebri*, enlargement of the third ventricle and the presence of a large (18x20x15mm) spheroidal mass in the sellar/parasellar region charcterized by isointense on T1 weighted images and discretely hyperintense on T2 weighted and FLAIR. In the dorso-lateral portion of the mass, a circular lesion (6 mm diameter) characterized by intense signal hyperintensity on T2 weighted images was detected After intravenously paramagnetic contrast medium administration, the mass showed dishomogeneous intense enhancement. A pituitary macroadenoma (invasive adenoma/adenocarcinoma) characterized by the presence of a necrotic/cystic lesion was suspected. Because of the invasive natur of the lesion the owner decided to euthanize the patient. Brain histopathology was performed, confirming the presence of a pituitary chromophobe carcinoma.

Pituitary carcinomas have been rarely observed in old dogs, moreover, cases of pituitary neoplasm with intense cellular pleomorphism and elevate mitotic index in absence of metastatic lesions are extremely rare. These neoplasms can cause serious functional disorders due to the destruction of the *pars distalis* of the neurohypophysis. In humans the distinction between invasive adenoma and pituitary adenocarcinoma is based on the finding of intracranial or systemic metastasis .It is believed that adenocarcinoma originate from malignant transformation of pre-existing adenoma, after a variable latency period. In the presented case, despite the absence of systemic and intracranial metastasis, the infiltrating growth pattern and the presence of neoplastic cells that arrive and surround the third ventricle, together with the intense cellular pleomorphism**,** guided the diagnosis to a malignant transformation of the neoplasm.

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