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This is a pre print version of the following article:

Original Citation:

Availability:

This version is available <http://hdl.handle.net/2318/1574010> since 2016-06-28T13:30:26Z

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Diagnostic and therapeutic management of Cryptococcosis in a kitten: a case report

A 3-month-old male kitten was referred to veterinarians for repeated seizure: clinical examination was normal, blood samples were aimed to blood cell count, biochemistry, *Toxoplasma gondii* IgG and IgM, and *Cryptococcus neoformans* detection (polymerase chain reaction technique - PCR). A positive value was revealed for *Cryptococcus neoformans*. A specific therapy was established using levetiracetam (dose: 20 mg/kg), and fluconazole (dose: 5 mg/kg). The central nervous system (CNS) was investigated using magnetic resonance imaging (MRI) in presence of a paramagnetic intravenous marker: hyperintensity in olfactory lobes, nostrils and olfactory sinus was highlighted in SeT2 sequences with moderate enhancement after the marker administration. CNS remaining parts were normal. Specific cultures were assessed to isolate *Cryptococcus neoformans* by blood and nasal swab, but they were all negative. Hematological controls were performed every 15 days. After 33 days, seizures began once again, becoming more and more frequent in the further two weeks. This led to the hypothesis that drugs were not efficient and clinicians decided to proceed with a recovery in a veterinary hospital in order to administer amphotericin B, every 48 hours for three consecutive times, at the dose of 1 mg/kg, checking creatinine and blood urea nitrogen (BUN) after every administration. Seizure disappeared. Following hematological controls highlighted increased levels of creatinase, BUN, alkaline phosphatase and cholesterol. The clinical examination was good and the PCR repeated two weeks after the treatment was negative for *Cryptococcus neoformans*. Nowadays the cat is 7 months old, and seizures disappeared two months ago. Hematological controls are quite normal, and only the BUN value is slightly beyond the range. It is known that Cryptococcosis is one of the most frequent feline mycoses in adult cats worldwide, more in America and Australia. Usually clinical symptoms involve nose, skin, lungs, lymph nodes, CNS, and eyes. Several exams were assessed to diagnose this disease, but false negatives are common, except for PCR and MRI. The treatment of localized diseases is generally successful using azole drugs; nevertheless in most cases the prognosis is poor, with a median survival time of 4 months with fluconazole and 8 months with itraconazole. Only disseminated diseases require an additional treatment with amphotericin B, and some cats require a long-term (>1 year) treatment or an indefinite therapy. In the authors' opinion, this case report should be worthy of attention because of 1) the age of the patient, 2) the limited localization of *Cryptococcus neoformans* that required a therapeutic plan similar to a disseminated disease, 3) the fact only PCR and MRI were positive 4) usually a long-term drug therapy might be potentially toxic, but not in this case analysis, 5) the rare result of a good prognosis.

References: Pennisi et al., J Feline Med Surg. 2013;15:611-8; Hammond et al., Vet Radiol Ultrasound. 2011; 52:306-8; Tilley & Smith, Blackwell's five minute veterinary consult: canine and feline. Fifth edition. Wiley - Blackwell.