

MULTIVISCERAL TETRATHYRIDIOSIS WITH GENITAL INVOLVEMENT IN AN EUROPEAN CAT

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Tetrathyridium bailleti is the second larval stage of *Mesocestoides lineatus*. Human, dog, cat and other carnivores are definitive hosts. *Tetrathyridium* can pierce bowel wall of dog or cat to reach body cavity producing peritoneal larval cestodiasis also known as tetrathyridiosis (1). Aim of this work is to describe the first report of multivisceral tetrathyridiosis with genital involvement in an european cat, highlighting the salient injuries and discriminative framework of infection as well as the important role played by molecular investigation to diagnose the parasite species involved. To the author's knowledge no report describes a parasitic oophoritis and metritis caused by *T. bailleti* and takes into account the rarity as well as the distinctive characteristics of this disease in cat rather than in dog (2, 3). The domestic cat lived in a garden with other conspecifics and it has not been vaccinated or treated against infectious agents and parasites. Physical examination and x-ray evaluation showed moderate abdominal swelling, cough, dyspnea and several pulmonary nodules that at first oriented clinicians towards a diagnosis of cancer. Necropsy carried after the owner request, showed the parasitic etiology of disease. Tissue samples collected during necropsy were routinely processed for histopathological examination. Adult tapeworms and larvae were stored in 70% alcohol, then placed in Petri dishes and observed with stereomicroscope (Zeiss Discovery V12), while flatworms belonging to the larval stage were processed for the observation with the electron microscope Cambridge Stereoscan 240 (SEM). Adult (n=1) and larval (n=1) tapeworms stored in 90% ethanol were sent to confirm morphological identification by means of PCR amplification and sequencing. Necropsy and histopathology showed

multivisceral parasitosis, with free and encysted worms in both body cavities, on serosal surface of the abdominal wall. Several multifocal granulomas were detected in spleen, lungs, uterus and ovary. The framework of pulmonary edema, granulomatous inflammation and emphysema led the cat to death. Morphological and molecular investigation confirm the diagnosis of Tetrathyridiosis. The features of oophoritis and metritis due to tetrathyridia could be interesting for clinicians, since despite the lack of reproductive history, on the basis of the observed lesions, it is possible to hypothesize reproductive function disorders, like oestrus disorders or persistent anoestrus, infertility or primary uterine inertia due to the injuries observed.

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- 2) Quintavalla F, Pattacini O, Borciani I, Micagni G, and Norcio C, 1996: Su un caso di tetrathyridiosi felina. *Veterinaria* 10, 99–102.
- 3) Dahlem D, Bangoura B, Ludewig E, Glowienka N, Baldauf K, Burgener FSI 2015: Tetrathyridiosis in a domestic shorthair cat. *Journal of Feline Medicine and Surgery Open Reports* 1-6