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days and dexamethasone orally for 12 days, respectively) the rat didn't show any improvement. During physical examination, an ulcerative dermatitis was noted over the dorsum with alopecia, excoriation and crusting. Pruritus was also noticed during the examination. General activity and body condition were good. In microscopic evaluation of skin scrapings, trichogram and scotch test, there were no parasitic, fungi or bacterial elements. Histopathology analysis revealed a perivascular hyperplastic ulverative chronic dermatitis with high eosinophilic component. This diagnosis suggests an allergic etiology of the skin lesions. Systemic treatment with steroidal anti-inflammatory drugs (prednisolone), vitamins and local treatment with antibiotic (chloramphenicol) are proposed. During the first two months, there is improvement in skin lesions. After, for medical reason of the owner, there is a lack of information concerning the follow-up. To our knowledge, eosinophilic dermatitis is uncommon in pet rat. Eosinophilic dermatitis should be considered is differential diagnosis of ulcerative skin lesions in rats.

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HEPATIC FIBROSARCOMA ASSOCIATED WITH TAPEWORM INFECTION IN RAT (RATTUS NORVEGICUS)

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ABSTRACT

The animal was brought to the clinic with general apathy and weakness underwent diagnostic laparotomy due to the large mass palpated in the abdomen.

Large tumor-like mass was found connected to the liver, and the animal was euthanized. During autopsy aprox. 40cm tapeworm looking parasite was found inside the mass.

The animal underwent full autopsy. Parts of the tumor-like mass were sent for histological examination. Brain, liver and lungs underwent PCR testing for toxoplasmosis.

Parasite was sent for morphological examination by microscopic observation of body and scolex, and finally for PCR confirmation of the species. Tumor tissue was diagnosed using H&E staining to be fibrosarcoma.

Tapeworm was identified to be strobilocercus of *Taenia taeniaformis*.

No tapeworm cysts were found.

Toxoplasmosis tests came negative. The tumor growth was strictly coexisting with tapeworm infection. It was suspected that the tumor allowed tapeworm to leave the cyst form and start maturing inside of it.

The infection was not visible during surgery month earlier.

General weakness and other neoplastic processes might have speeded the tumor growth and allowed parasite infection.

1. INTRODUCTION

The one and half year old rat female was brought to the clinic showing signs of general weakness and apathy.

The animal had many abscesses located under skin in different parts of body and it was under treatment for pituitary gland tumor.
During examination large mass was palpated in the abdomen.
Because there was risk of abscess forming after the ovariohisterectomy which the the animal underwent one month earlier, decision was made to perform diagnostic laparotomy.
Large (aprox. 3x 3,5cm) inoperable tumor-like mass was found connected to the liver with large clot forming below.
The animal was euthanized to perform more diagnostic procedures. During autopsy the tumor-like tissue was cut in half and large (aprox. 40cm long) tapeworm looking specimen was found alive inside of it.

2. MATERIAL AND METHODS

Animal body underwent full autopsy. Tissue samples of the tumorlike mass, liver, brain and lungs were collected for further studies.
Mass tissue underwent histological studies using H&E staining.
Tissue samples of brain were tested for *Toxoplasma gondii* infection by using PCR. Commercial kit (RIDA®Xtract R-Biopharm AG, Germany) was used for DNA isolation from the tissue.
With the PCR method non coding 529bp fragment was amplified using TOX-4 and TOX-5 primers.
The morphometric and molecular studies of the parasite isolated from liver were performed. Parasite DNA was isolated by using the commercial kit (RIDA®Xtract R-Biopharm AG, Germany). The amplification products of mitochondrial cytochrome oxidase 1 (CO1) obtained using PCR were sequenced and compared with those deposited in GenBank® using NCBI Blast® platform.

3. RESULTS

3.1 Histological studies of tumor-like tissue

Histological study proven tumor-like mass to be fibrosarcoma.

3.2 Study for the presence of *Toxoplasma gondii*

Results for the presence of *Toxoplasma gondii* came negative.

3.3 Identification of parasite species

By the microscopic observation the specimen was proven to be tapeworm larva, but the method was insufficient to identify exact species of the parasite.
Analysis of CO1 marker sequence of the examined parasite showed 100% sequence identity with the *Hydatigera taeniaeformis* (syn. *Taenia taeniaformis*) sequence AP017671.1 deposited in GenBank®.

4. DISCUSSION

The fibrosarcoma is known to arise in small mammals from the inflammation caused by tapeworm cysts.[1,2]
In this situation however no cysts were found in the liver and the larva was unusually long. It is unknown if it was tapeworm in its abnormally long form which induced the tumor, or it was fibrosarcoma which created environment for the parasite to grow. Nonetheless the two situations seems to be interconnected.
It is also suspected that general weakness of the animal's immune system, due to the surgery, pituitary gland tumor and age, allowed fast advancement of the disease.
The primary source of the parasite infection remains unknown and none signs of the infection were seen during the surgery month earlier.
The animal spent last year in place, had no contact with cats and was fed only commercial food. None of the other 20 animals in the same place showed any signs of infection.

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