

## Giardiasis in local breed queen : A case report

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### Abstract:

A case was a local breed queen 3 years old ,with history of parturition since 4 days and suffering from mild diarrhea with steatorrhea. The cat was examined clinically and the feces was examined by both direct and concentrated method. The clinical examination reveal that all vital sings were within normal values. There were no any trophozoites detected in both direct and flotation methods . despite , just one cyst was detected in direct smear there were numerous cysts were demonstrated in centrifugal flotation method by magnesium sulfate with 1.20 specific gravity.

Key wards: giardia , queen, iraq, protozoa.

### داء الجيارديا في قطة من سلالة محلية : تقرير حالة

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### الخلاصة:

كانت الحالة هي قطة محلية عمرها ثلاث سنوات ولها تاريخ ولادة قبل أربع أيام ، تعاني من إسهال معتدل مع زيادة طرح الدهون في البراز . تم فحص القطة سريريا وفحص برازها بالفحص المباشر والمركز. أظهر الفحص السريري ان المعايير الحيوية كانت ضمن الحدود الطبيعية بينما لم يشخص الطور الناشط في أي من الفحصين، وعلى الرغم من ان الفحص المباشر اظهر وجود كيس واحد الا ان عدة اكياس ظهرت في فحص التطويق بمحلول كبريتات المغنسيوم بوزن نوعي 1.20 .

### Case report :

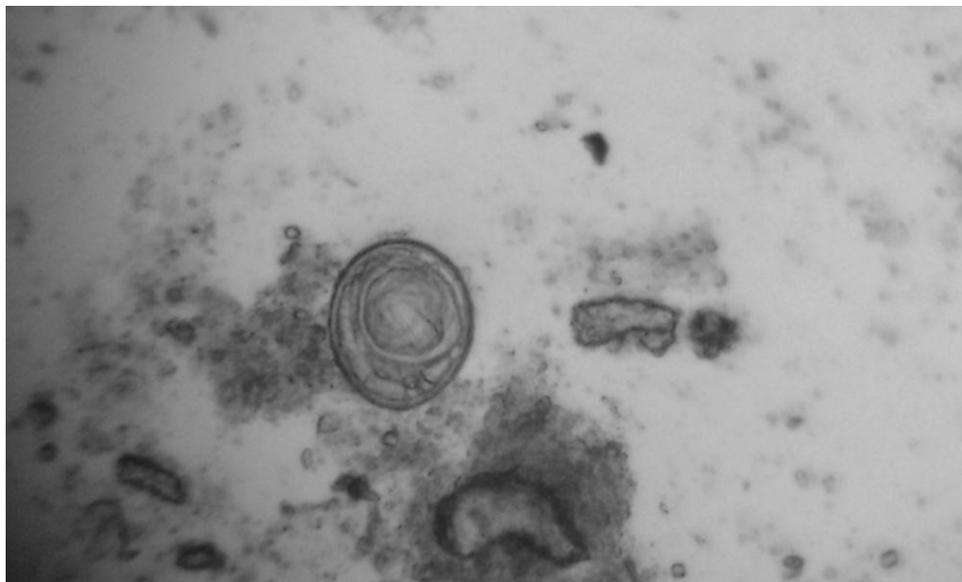
A three years old cat with history of parturition since 4 days was brought to authors suffering from mild diarrhea. The feces was soft and pale in color. The clinical examination revealed normal vital signs with normal appetite and body score. Direct smear of fresh feces was prepared and examined ,as well as centrifuge flotation method was performed by

suspension of 2 grams of feces in saturated zink sulfate with specific gravity 1.290 and both techniques were carried out as described by Minami (1 ).

The result of parasitic examination by flotation method revealed present of numerous cysts of *Giardia spp.* while no *Giardia* cysts were detected by fecal direct smear , just one cyst was observed in direct smear . The measurements of

cysts were calculated by ocular micrometer as procedure recommended by (2), the means of lengths and widths were  $10.3 \times 7.5 \mu\text{m}$  ( $\pm 0.12$ ) respectively and have a length to width ratio of about 1.37. No

trophozoites were detected in both examination techniques.



#### Discussion:

Giardiasis is an enteric protozoal infection of man and animals caused by the flagellated protozoan *Giardia*, which is characterized by a direct life cycle and worldwide distribution (3). In Iraq, giardiasis was confirmed in cattle (4), dogs (5) and horses (6). According to available literatures, the present study is the first time to study feline giardiasis in Al-najaf province.

The classification of *Giardia* is very complicated, in the first half of the 20<sup>th</sup> century, most species of the genus *Giardia* were assigned based on host species (7), while from the 1960s to the 1980s, researchers tended to lump the different species of mammals (except mice) as *Giardia duodenalis* (8). Recently, molecular methods revealed several divergent *Giardia* assemblages: A/B assemblages in man, C/D assemblages in dogs, E assemblage in hoofed mammals, F assemblage in cats, and G assemblage in rats, while mice are the host to their own recognized species *G. muris* (9). The morphological

properties and dimensions of cysts recovered in the present study were close to those of *G. felis* (10, 11).

Generally, feline giardiasis occurs as a symptomless case, but a cat may develop clinical giardiasis as the inflammatory response of the infected host results in villar and microvillar blunting, which decreases the surface area available for absorption. The clinical signs that result from these microscopic changes include malodorous diarrhea, steatorrhea, and weight loss or failure to gain weight (12).

The laboratory diagnosis of *Giardia* depends on the detection of cysts in fecal samples. Many authors have explained the rarity of trophozoites in feces as their response to an identified stimulus to produce the resistance cyst wall, as they pass from the small to the large intestine, the trophozoite then divides, resulting in two trophozoites within the mature cyst (10, 12, 13). Therefore, the detection of a cyst by concentrated methods is preferred,

because cyst excretion has been shown to be sporadic (14).

The resistant cyst is very sensitive and deformed quickly to crescent shape in most concentrated solutions except zinc-sulfate (specific gravity 1.290) which cause minimal deformity to cysts.

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