CAT SCRATCH DISEASE

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ABSTRACT

Approximately 24,000 people are infected with cat scratch disease (CSD) every year. CSD is caused by *Bartonella henselae*, a gram-negative bacteria most often transmitted to humans through a bite or a scratch from an infected cat or kitten. We report a rare case of CSD with spleen localisation in a 34-year-old patient. CT scan was performed – hepatosplenomegaly liver 233/181mm, spleen 163mm with multiple focal hypoechogenic lesions. Lymphadenopathy in the regions of the aorta, lower caval vein, mesentery vessels and inguinal lymphadenopathy the largest size of which being 20 mm were found. The patient underwent a splenectomy. Postoperative therapy was held with Metronidazole 3x1fl and Cefazoline 3x2 g for five days. At the six-month follow–up the patient reported no complaints. Serological tests were repeated – antibodies against *Bartonella henselae* – IgG past medical history for feline disease.

Keywords: *Bartonella henselae, cat scratch disease, cat scratch fever*

CSD is a rare disease caused by the bacteria *Bartonella henselae*. It is a Gram-negative bacillus that exists worldwide. Humans can be infected through a bite or a scratch from an infected pet, foxes and even coyotes in the USA (9,11). The patients report contact with pets. Besides the skin, in about 14% of the patients the disease affects other organs: the brain, bones, peritoneum, lungs, liver and spleen.

CASE REPORT

A 34-year-old female patient presented at the clinic with a three-month history of weakness, sweating, fever up to 38,5° C, heaviness, pain in the left upper quadrant of the abdomen and weight loss of about 30 kg in a year and a half. The patient has a past medical history for a pet – a cat. During the last year serological tests for leishmaniasis, tuberculosis, and hydatid disease are made. The results were

Fig. 1. CT of abdomen – hepatosplenomegaly

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Fig. 2. CT of abdomen – multiple focal hypoechogenic lesions in the spleen

negative. Laboratory tests included white blood cell count 17.25 x10^9/l; Hb – 85gr/l; Hct – 0,25; Platelet count – 452 x10^9/l; serological tests – *M. pneumoniae* IgG – 0,71; *C. trachomatis* IgG – 0,27; *C. trachomatis* IgA – 0,50; *B. burgdorferi* IgG – 0,50; *B. burgdorferi* IgM – 0,49 reference values N< 1. A CT scan was performed – hepatosplenomegaly: liver 233/181mm, spleen 163mm (fig. 1), multiple focal hypoechogenic lesions in the spleen (fig. 2), lymphadenopathy in the regions of the aorta, lower caval vein, mesentery vessels, inguinal lymphadenopathy with its largest size being 20 mm (fig.3).

Fig. 3. CT of abdomen – aortal and inguinal lymphadenopathy

Intraoperative findings – spleen with a size of up to 20 cm, adhesions to the omentum, the stomach and the tail of the pancreas. A splenectomy with distal pancreatectomy was performed.

The pathohistological findings presented various-sized granulomas: the small ones with central necrosis and giant cell Langhans type; the big ones were presented with central necrosis with abscesses (fig. 4).

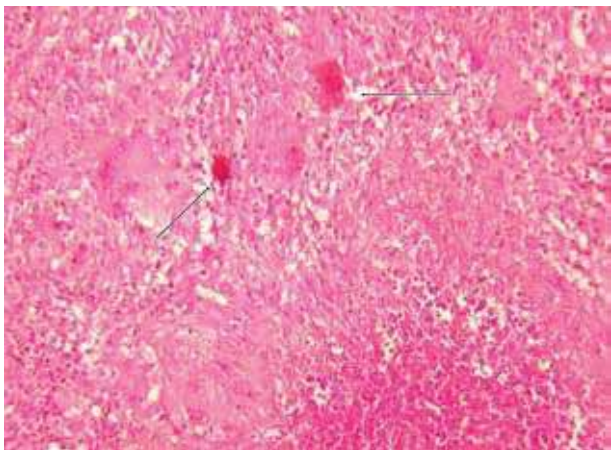

Fig. 4. Microscopy of the spleen – Langhans cells (open arrows) at the periphery of granuloma (asterix)

Recovery and therapy was held with Metronidazole 3x1fl and Cefazoline 3x2 g for five days. At the six-month follow-up the patient reported no complaints. Serological tests were repeated – antibodies against *Bartonella henselae* – IgG past medical history for feline disease.

DISCUSSION

Involvement of the spleen was reported in less than 10% of the patients (9,11). For the first time it was described by Inglis and Tonge in 1950 (2,14). It is accompanied with hepatomegaly and Erythema nodosum (1,2,5,6,7,8,12,14). The frequency rate is higher in children younger than 15 years old (2,5,6,14). Only in two cases, reported with hepatosplenomegaly, there is no data about a cat. There are common signs in the past medical history and in the clinical symptoms in the literature case – reports described:

- presence of a pet – a cat

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- scars from scratching or biting;
- lymphadenopathy of non-infectious process or malignancy;
- clinical presentation during a two- to three-week period;

According to Greenbaum et al. the CT scan images are infrequent and usually the description is "some small defects".

It is difficult to isolate B. henselae in human tissue cultures. Meanwhile, it can be isolated in the blood of cats relatively easy (12).

According to other studies, B. henselae can be isolated in ticks, too (3). B. Henselae invades people via a scratch or bite through a break in the skin but also can be transmitted by fleas. Cases with family outbreaks were reported in the literature but there are no reports that *B. henselae* is transmitted from person to person. CSD is a self-limiting condition in 6 to 12 weeks. Rare cases include optic nerve involvement, which presents as optic neuritis or neuroretinitis, inflammatory breast disease, encephalitis, and hematological manifestations such as thrombocytopenic purpura and haemolytic anemia endocarditis (9,11).

CONCLUSIONS

1. CSD is a common disease. The main cause is an increased number of pets and on the other hand – the development of new serological tests.
2. The atypical clinical picture is associated with hematological or nervous system symptoms. Involvement of the organs in the abdomen has been reported increasingly.
3. The exact diagnosis and successful treatment depends on the interdisciplinary collaboration between microbiologists, immunologists, surgeons and pathologists.

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