Hepatozoonosis

Caused by the protozoan parasites of the Hepatozoon genus. Hepatozoon canis is most commonly seen in dogs that have travelled outside of the UK as this species is found in Mediterranean countries (especially southern Europe but also the Middle East, Asia, Africa and India). Hepatozoon canis is transmitted by ticks, but dogs become infected when they ingest a tick rather than via a tick bite, unlike most other tick-borne infections. The vector for H. canis is Rhipicephalus sanguineus. Another species, Hepatozoon americanum, transmitted by the tick Amblyomma maculatum, is only found in southeastern and south-central USA. A feline species, Hepatozoon felis, has been reported occasionally in Europe as well as other parts of the world.

FAQs

What are the clinical signs of Hepatozoon spp. infection?

Infections can be subclinical but when clinical signs are seen with H. canis, they comprise lethargy, fever and weight loss. Signs are more severe in immunocompromised dogs.

Dogs infected with H. americanum show severe signs of fever, pain, lameness, muscle atrophy and ocular discharge.

Cats are usually subclinically infected but non-specific signs of fever, lethargy, inappetance and weight loss can be seen, particularly in immunocompromised cats (e.g. FeLV or FIV infection).

How do I diagnose hepatotozoonosis?

Some non-specific changes may be seen on blood tests. Anaemia is often present with H. canis and dogs infected with H. americanum can have a profound leucocytosis and increased CK and AST enzyme activities (due to a myositis). Radiography may show periosteal bone proliferation in dogs infected with H. americanum.

Blood smear examination may reveal typical hepatotozoon gamonts in infected neutrophils; these are easier to find in H. canis infections compared to H. americanum infections.
Hepatozoon spp.

PCR is sensitive and specific, and can reliably identify Hepatozoon spp. infections in the blood and can also distinguish between infecting species if required.

What treatment options are there?

Treatment for (clinical) *H. canis* infection is imidocarb dipropionate by injection every two weeks until gamonts are no longer visible on blood smears; although levels of parasitaemia can decrease, dogs may remain PCR positive despite successful treatment due to a lack of elimination of the infection. The prognosis for *H. canis* infection can be good.

*Hepatozoon americanum* infections cannot be eliminated either and treatment is complex, using combination drug therapy. Advice on treatment should be sought if *H. americanum* is diagnosed.

In cats *H. felis* has been successfully treated with doxycycline.

How can we prevent hepatozoonosis?

Effective tick prevention!

This is achieved by the use of ectoparasiticides to prevent tick infections as well as daily tick inspections on the dog to immediately remove and dispose of any attached ticks. Although Hepatozoon spp. infections are not spread by tick bites, dogs will ingest ticks when grooming, as well as ticks recently dislodged by tick inspections, so tick prevention is still very important.