Facts about ticks

A tick is not a true bug

The hard tick, scientifically known as Ixodes ricinus, is in fact a large mite. Among non-entomologist the word “true bug” is often synonymous with “tick”, however, bugs are defined as insects and not mites. The life-cycle of a tick consists of four stages: egg, larva, nymph, and the mature adult. The tick completes its cycle in three years, but the period may range from 2 to 6 years. As a larva, nymph or adult, the tick will need one single blood meal to develop into the next stage - or in case of a female tick - to produce eggs. It sucks blood from either mammals or birds and will stay attached to its host for approx. 2 days. Once it is fully engorged, it will leave its host and hide in dense vegetation to digest its meal and to develop into another stage. The female tick normally produces around 2,000 eggs. Both the larvae, the nymphs, and the adult ticks are capable of feeding from humans, and it is during this blood sucking phase that the tick may transmit pathogenic organisms to both humans and animals.

Where and when may ticks be found?

It seems as if ticks have increased in numbers during the last couple of years. It may be partly due to the rise in temperatures, and to an increase in the number of some of their natural hosts such as the deer. Ticks are rarely found in gardens with closely mowed lawns and well-maintained flowerbeds. However, minor populations of ticks may be found in urban areas with a large number of mice, hedgehogs or birds. The ticks are active from March till October, as in general the temperature has to be above 4-5 degrees Celsius. Their natural habitat consists of wooded and brushy areas or dense vegetation that are crucial environmental conditions for ticks. A tick is sensitive to drying out and therefore, the relative humitidy must be above 80 %. Consequently, ticks who are feasting on cats, dogs, or humans will die quickly, if they fall off their host in an indoor environment.

How to prevent tick bites?

In theory, regulation of certain animals such as hares and deers living in parks, gardens, and other natural areas close to humans, will lower the risk of a tick infestation. In practice, however, such measures will be possible only in geographically isolated areas like small islands. It is also possible to limit the stay in places that are likely to hold ticks such as forests. However, both methods will prevent humans from a lot of wonderful experiences as well!

Therefore, it is recommended to consider the problem in terms of its size and then take some simple precautions. When walking in typical "tick areas" such as woods, shrubs, and other areas with long grasses, it is advisable to wear tight clothing, especially on the legs. Pant legs should be tucked into socks or wellingtons. Compared to adults, children are more likely to have their upper body, the area around their ears and their scalp infested. Consequently, these particular areas should be checked extra carefully, since ticks during their larval and nymph stages are very small. If there is a risk of ticks hiding in the clothing, it can be put in a tumble dryer or in another warm and dry place. The ticks will die quickly. Spraying clothing with a mosquito or tick repellent may have a preventive effect.

To minimize the risk of having dogs or cats infested with ticks, they can be treated with a tick repellent. Please consult a veterinarian to learn about the various options.

What to do in case of a tick bite?

In order to lower the risk of getting tick borne diseases after a bite, the tick should be removed as quickly as possible. Use a tick removal tool, available at the pharmacy. If using tweezers, it is important to be particularly careful. Avoid crushing the tick. Take a firm grip around the tick as close to the skin as possible and gently twist the tick removal tool or the tweezers. The tick will

then let go of its grip. Finally, use soap and water to disinfect the spot. Any remains of mouthparts will normally be expelled spontaneously without complications.

It is very important to keep an eye on the bite area. If it develops into a red circle or a circular area around the bite, medical help is required.

Tick borne diseases in humans

Most people do not even realise the bite of a blood-sucking tick. For one thing, their bite are hardly noticable, since their saliva contains a natural anesthetic. Furthermore, ticks during their larval or nymph stages are so small (1/2-2 mm) that they are easily missed.

Lyme disease

Over the passed few years, Lyme disease, which is a bacterial infection, has become the most talked-about tick borne disease. In the unfortunate event of a tick bite, infected with Borrelia burgdorferi bacterias, the infection may in fact develop very differently.

A common sign of an infection is a circular, well-defined red rash that occurs 1-3 weeks after the tick bite. The rash expands slowly towards the center of the bite. Mild, local symptoms such as itching and irritation are experienced by many. Non-specific symptoms such as tiredness, joint and muscle pain, headaches, and fever may also occur.

If any of these symptoms are experienced after a tick bite, a doctor should be consulted to check for a Borrelia infection or any other tick borne disease. Lyme disease is treated with antibiotics.

Tick borne encephalitis - TBE

TBE is the abbreviation of tick borne encephalitis. The disease is an infection in the brain and the spinal cord, caused by the TBE-virus. TBE is the most serious tick borne disease of them all and has been detected around Europe with various frequency, though most often in Southwest Finland and in Sweden.

The incubation period is 10-14 days from the infection to the first symptoms. Within the first 4-5 days, fever, fatigue, headaches and muscle pain will appear. Then, about 2/3 of the infected persons will get well.

The remaining 1/3 may, however, experience a worsening in the form of a meningitis. The symptoms are severe headaches, dizziness, nausea and vomiting, neck stiffness, mental symptoms, and for some patients also cramps and weakening of the muscles.

The virus may be detected by a blood test and if necessary, by a spinal tap. Since TBE is a virus, there is no treatment. Therefore, persons infected with TBE will be hospitalized to alleviate their symptoms.

However, an effective vaccine against TBE is available. Persons who often frequents forest areas, can consult a doctor regarding the option to have a vaccine.

Anaplasmosis

Anaplasmosis is a tick borne disease, caused by the bacteria Anaplasma phagocytophilum. It is found in dogs, cats, horses, cattle and sheep, but has also been detected in humans. The bacteria is transmitted from animals to humans by ticks, but it rarely happens.

Normally, there are no symptoms, however some mild flu-like symptoms may occur such as fever, headaches, muscle and joint pain, and fatigue. On rare occasions, more severe symptoms of the disease are seen in lungs, kidneys, and the nervous system.

Anaplasmosis can be detected by a blood test and is treatable with antibiotics.

Babesiosis

Babesiosis is a rare disease caused by an infection with the parasite Babesia. Babesia resembles the parasite that causes malaria, and therefore, symptoms are also similar to those of malaria such as chills and periods of high fever, muscle pain, and development of anemia. Babesia is transmitted from animals to humans by a tick. Babesiosis is treated with a combination of quinine and antibiotic.

Tick borne diseases in dogs

Dogs may get sick from a tick bite, if they are infected with either a TBE-virus, a Borrelia or a Babesia bacteria. The most common symptoms are loss of appetite, depression, pain in one or more joints which may also cause lameness, and fever.

Not until the last 20 years, it has been known that also dogs can get sick from tick borne diseases. Therefore, the testing of tick borne diseases are still not common in relation to dogs. As a consequence, it is estimated that every year, several dogs die from tick borne diseases due to the lack of a correct diagnosis.

Lyme disease

Lyme disease is the most commonly transmitted infection. Contrary to humans, dogs seldom develop a red rash around the bite which makes it hard to detect the disease until it shows more severe symptoms. These may include recurrent seizures of high fever, lameness and joint pain, possibly swollen joints and lymph nodes as well as a reduced function of the kidneys. Facial paralysis and epileptic seizures may also occur. The disease causes much suffering for the dog, but it is as such not fatal unless kidney failure occurs.

Treatment: a high dose antibiotic.

Anaplasmosis

The symptoms of anaplasmosis are similar to those of Lyme disease, however, they also include depression, loss of appetite, and anemia. Dogs infected with anaplasmosis are often subject to kidney damages as well as nose bleeds caused by a decrease in the blood's platelets. If not treated, the disease will most likely be fatal.

Treatment: a high dose antibiotic.

TBE

As in humans, TBE is a severe tick borne disease. It attacks the brain and causes fever, cramps, and visual disturbances. An infected dog is often keeping its head in a strange oblique position.

Treatment includes fluids, fever reducing medicine as well as sedative and anticonvulsive medicine.

Babesiosis (piroplasmoses)

Babesiosis is an infection that multiplies in the red blood cells, causing them to burst. It results in a inflammatory reaction which a.o.t. causes damages to the walls of the blood vessels, a lack of red blood cells, and the risk of organ damages. The symptoms are fever, loss of appetite, and fatigue. In addition, red/orange-coloured urine, jaundice, vomiting, nervous symptoms, and fast respiration can be seen.

Treatment: there are different approved drugs for the treatment of babesiosis in different countries.