

Brucellosis in wildlife and pets in Finland – One health aspects

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Background

The source of human *Brucella* infection is always live or dead animals or food of animal origin. Human cases are usually caused by *Brucella melitensis*, *B. abortus* and *B. suis* biovar 1 and 3 harboring sheep, goats, cattle and domestic swine. Due to effective eradication programs, livestock in Finland is free from brucellosis. However, during the past few years *Brucella* infections have been detected in Finnish wildlife as well as in imported dogs. Autochthonous *Brucella* infections have not been reported for decades in humans.

Objectives

The goal of this poster is to highlight the recent findings of *Brucella* infections in Finland and to increase the awareness of the potential for transmission to humans.

Methods

Examinations for *Brucella* infections were performed using serological and cultivation methods.

Results

Brucella suis biovar 2 was for the first time found in the year 2016 in wild boars (*Sus scrofa*). Of 206 animals, 5 % were positive serologically and 3 % by the cultivation method.

The population size of wild boars in Finland increased markedly during the past few years. In the year 2018 it was estimated to be 3 155 animals, most of them living in the south-eastern part of the country.



After the intensive hunting of more than 900 wild boars, the population was diminished to 1 950 animals at the beginning of the year 2019. In other countries, there are several reports of *Brucella suis* biovar 2 infections in human beings, most of them having a connection to the hunting of wild boars or handling the carcasses. *B. suis* is also infectious to hunting dogs.

Brucella pinnipedialis was isolated for the first time in the year 2013 in grey seals (*Halichoerus grypus*) in the coastal area of the Baltic Sea. The bacterium was isolated from suppurative lesions in liver and bile ducts. Human infections caused by this *Brucella* species are very rare. In reported human cases the source of infection was probably raw seafood.

Brucella canis was isolated from imported dogs for the first time in the year 2008. It is nowadays very common to adopt stray dogs or buy pups from abroad to Finland, even from countries where brucellosis is endemic in dogs. Infected dogs may excrete the bacterium in the genital discharges for years without any apparent signs of disease. In case of abortion due to brucellosis large numbers of the bacterium are present in the placental tissues and fluids as well as in dead and live pups.

Even though the *Brucella* species occurring in Finland are low-pathogenic to humans, all of them can also cause serious illness. Human brucellosis is difficult to diagnose due to the lack of specific symptoms. We wish to increase the awareness of the possible transmission of autochthonous *Brucella* infections also in Finland, even though the livestock is free of the disease.

