Research project IZS VE 11/11

New insights on the epidemiology and pathogenesis of Pneumocystis spp.: immunohistochemical and biomolecular study in wild and domestic mammals

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Pneumocystis organisms are considered as major opportunistic fungal pathogens that infect humans and a wide range of other mammalian host species. They usually colonize the lungs of immunocompromised and immunocompetent hosts inducing occasionally severe pneumonia or more often asymptomatic infections. Immunodeficiency-causing pathogens such as HIV virus in humans may predispose to co-infections. Recently, swine and wild boars have been found to be co-infected with porcine reproductive and respiratory syndrome virus (PRRSV) and porcine circovirus type 2 (PCV-2), suggesting that co-infection with Pneumocystis may be enhanced by the virulence of primary pathogens or may have synergic effects in the pigs with chronic wasting diseases. No epidemiological data are available about the presence of Pneumocystis organisms in domestic and wild animals in Italy.

The aims of this study are:

- to assess the presence/prevalence of Pneumocystis organisms in wild or domestic mammals in Italy;
- to contribute to determine the role of Pneumocystis organisms in the pathogenesis of swine co-infected with PCV-2.