Rapid detection of Chlamydia/Chlamydophila group in samples collected from swine herds with and without reproductive disorders

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Abstract

The study was carried out in seven reproductive herds of pigs. In three of them reproductive disorders were observed. Three herds consisted of 10-50 and four consisted of 120-500 adult sows and they were called small and medium, respectively. Fifty-seven adult sows were randomly selected from herds. Serum samples were tested using the complement fixation test and swabs from both eyes and from the vaginal vestibule were examined using real-time PCR. All serum samples were negative. Infected sows were present in each of the study herds. In total, there were 28 positive samples (53%, 28/48) in real-time PCR in sows with reproductive disorders and 35 (53%, 35/66) in sows selected from herds without problems in reproduction. One isolate proved to be Chlamydophila pecorum, whereas all the remaining were Chlamydia suis.

Key words: sows, Chlamydiaceae, Rt-PCR, complement fixation test

Introduction

Pathogens from Chlamydia/Chlamydophila group in the Chlamydiaceae family may be responsible for subclinical intestinal tract infection, pneumonia, polyarthritis, polyserositis, conjunctivitis as well as reproductive disorders such as late-term abortion in sows, an increased rate of perinatal and neonatal mortality, and epididymitis and vesiculitis in boars (Kaufold 2006, Schautteet and Vanrompay 2011). It was recently reported that chlamydiae were isolated from both clinically healthy animals and animals with clinical symptoms (Englund et al. 2012). Difficulties with cultivation of the pathogens cause that currently different methods, such as serology, immunohistochemistry, histology and PCR are preferred in diagnostics (Englund et al. 2012). The objective of the study was to determine prevalence of Chlamydia/Chlamydophila group infection in sows and identify the species of the pathogens infecting sows with, or without, reproductive disorders.