The influence of experimental *Yersinia enterocolitica* infection on the pregnancy course in sows – preliminary studies

I. Bacteriological examination

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Abstract

The aim of the study was to determine the influence of *Yersinia enterocolitica* (*Y. enterocolitica*) experimental infection on the carrying and shedding states of the microorganism by pregnant sows and on the bacteria occurrence in tissues of the infected animals and aborted or stillborn piglets. Twelve pregnant sows were divided into 4 groups and infected *per os* on 33 – group I (n=3), 54 – group II (n=3) and 89 – group III (n=3) day of pregnancy with the *Y. enterocolitica* strain isolated from the palatine tonsil of aborted swine fetus. The control group (n=3) remained uninfected. Rectal, oral and vaginal swabs from sows, placentas and the specimens of tissues from stillborn piglets were collected for bacteriological examination. Eight weeks after delivery, the sows were slaughtered and samples of internal organs were subjected to bacteriological examination. Pregnancy in all groups of sows took a normal course, and no cases of abortion were observed. *Y. enterocolitica* was isolated from oral, rectal and vaginal swabs of all infected sows. The number of stillborn piglets in the litters was highest in group III, where two macerated fetuses with putrefactive lesions were found. The bacteria were isolated from tissues of stillborn piglets in groups I and III, and only from placenta in group II. In rectal swabs of piglets in all groups, *Y. enterocolitica* was not isolated.

The results of experimental infection of pregnant sows with *Y. enterocolitica* revealed that in animals infected in the last part of pregnancy, the microorganisms were isolated most frequently from vaginal, rectal and oral swabs of sows as well as from internal organ tissues of stillborn piglets.

Key words: *Yersinia enterocolitica*, challenge, sow, pregnancy, bacteriology

Introduction

*Yersinia enterocolitica* (*Y. enterocolitica*) is the microorganism with wide prevalence in human and animal populations. The mechanisms of epidemiology and pathogenicity of this bacterium is not fully recognized. The main reservoir of strains pathogenic for human are pigs, which often carry the pathogen in the oral cavity and throat (Fenwick 1997, Bottone 1999, Fredriksson-Ahomaa et al. 2000). Shedding of bacteria commonly occur in swine and is linked with frequent *Y. enterocolitica* contamination of the farm.