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THE IMPACT OF *KLEPSIELLA OXYTOCA* ON BOAR SPERM QUALITY

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SUMMARY

Bacterial contamination of boar semen occurs with some frequency in artificial insemination centers and may have a negative effect on the quality of the semen as well as on the sows' reproductive capacity. In this case report, the boar was clinically healthy, but on farms there were registered reproductive failures. The study focused on the identification of gram-negative bacteria Klebsiella oxytoca (K. oxytoca) in boar semen, and its impact on the quality of ejaculates obtained from boar. The classification of bacteria into Klebsiella genus was confirmed by commercial biochemical tests, Microgen GNA System (Camberley, UK). The numbers of K. oxytoca colonies were determined in diluted boar semen samples by streaking each on the surface of nonselective Nutrition agar (LabM, UK). The semen samples were contaminated with K. oxytoca above 2 × 104 colony-forming units/mL (CFU/mL) at first semen analyses and 4.8 x 105 CFU/mL after 14 days. Klebsiella oxytoca is a gram-negative microbe generally associated with the community. This bacteria is an opportunistic pathogen implicated in various clinical diseases in animals and humans. Various motility parameters as well as sperm concentration were analyzed using the CASA system (Minitube, AndroVision, Tiefenbach, Germany), on 0 days and after 14 days. Total motility in boar semen was lower by 3.21 fold in boar semen with a larger number of K. oxytoca than in those with a smaller number of bacteria. Also, progressive motility was lower by 2.83 fold, the percentage of fast spermatozoa was lower by 2.63 fold in semen with a larger number of bacteria. The degree of bacterial contamination in ejaculates directly influences sperm quality parameters. Thus, on the basis of the pathological effects that K. oxytoca may have on boar sperm quality, bacterial contamination should always be examined in semen samples prepared for artificial insemination.

Key words: *K. oxytoca*, boars, semen, motility spermatozoa