BACTERIAL DISEASES

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IMPORTANCE OF CO-INFECTING SEROVARS OF LEPTOSPIRA IN SPAIN

M. Marcos Cienfuegos, M. Jiménez, R. Menjón, J. Bollo, A. Romero.

MSD Animal Health, Madrid, Spain.

Introduction

Leptospira is distributed worldwide, affects a wide range of species and is also a zoonosis. Leptospira in swine production result in severe economic losses due to its negative effect on reproductive parameters (abortions, increased stillbirths, mummified piglets, infertility) and high antibiotic use for treatment. The aim of this study was to establish the prevalence of several serovars of Leptospira in co-infected animals in farms reporting reproductive problems.

Material &Methods

Between January 2016 and October 2017, all analytical results sent to two different Spanish laboratories for the diagnosis of reproductive problems were collected. Only those samples from confirmed reproductive problems were considered. The samples were analyzed by the MAT technique obtaining as results: Negative (no agglutination) or Positive (titres between 1/30, 1/50, 1/100, 1/300, ≥1/800). A total of 835 serum samples were analyzed for Bratislava serovar (B) and Pomona (P), and 789 for Icterohaemorrhagiae (Ic), Canicola (C) and Gryppotyphosa (G). B and P are considered swine population adapted while Ic are in rodents, C in dogs and probably G also dogs and wild animals.

Results

Analysis of serum samples individually confirmed the following results: 16.6% positive against serovar B + Ic, 11.3% B + P, 0.8% B + G, 0.3% B + C, and 0.5% P + Ic. In addition 5.2% was positive against B + P + Ic at the same time. Thus, co-infections affecting the same animal are present in 34.7% of all serum analyzed.

Discussion & Conclusion

Coinfections of at least two serovars in the same animal are common. The non- adapted serovar Ic is more common in co-infection than adapted serovar P. We need to be aware of contact between swine and other species to control infections with non-adapted serovars of Leptospira. A multivalent Leptospira vaccinate will be needed to control disease.