



BACTERIAL DISEASES

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SEROTYPING OF 705 *STREPTOCOCCUS SUIS* STRAINS BY PCR

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Introduction

Streptococcus (S.) suis is a major swine pathogen which causes considerable losses in the swine industry. *S.suis* possesses a coat of capsular polysaccharides that confers protection against the immune system. This capsule helped to classify *S. suis* strains into 35 serotypes (1 to 34 and 1/2). Recent studies demonstrated that serotypes 32 and 34 belong to the *S.oriratti* species and for serotypes 20, 22, and 26 a new species called *S.parasuis* was suggested. Hence, *S.suis* species can be divided into 29 serotypes.

Material & Methods

Between January 2016 and October 2017 705 *S.suis* isolates were gained from 8 different countries (Germany, UK, Belgium, The Netherlands, Poland, Russia, Croatia, Switzerland). Swabs were spread out on blood agar and incubated for 24h at 37°C. Species confirmation was performed by MALDI-TOF mass spectrometry and serotyping by PCR. PCR-based methods for serotyping are not able to differentiate between serotypes 1 and 14 and 2 and 1/2, respectively.

Results

212 of the 705 isolates (30%) were found to be serotype 2 or 1/2, followed by serotype 9 (n=158), serotype 7 (n=82) and serotype 1 or 14 (n=70). The remaining serotypes were found in the following descending order: 4, 8, 3, 5, 18, 16, 21, 29, 12, 28, 31, 17, 23, 10, 11, 15, 19, 25 and 30. 20 isolates were not typeable. Serotypes 6, 13, 27, 33 and 35 could not be detected.

Discussion & Conclusion

This study confirms that *S.suis* serotype 2 is still the most frequent serotype found, followed by serotype 9 and 7. Although new approaches were used for serotyping, 20 isolates could not be typed. As this method of serological typing is based on antigenic composition of the bacterial capsule, it might be difficult to identify strains without any capsule genes or with deviations in the capsule gene sequences.