

IN VITRO SENSITIVITY EVALUATION OF STREPTOCOCCUS SUIS STRAINS

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Introduction

Streptococcus suis is an important pathogen to the swine herds. The infection has been identified in many countries, causing economic losses, as mortality, weight loss, expenses with medicaments to sick animals and man work (1, 2). The zoonotic character is an additional factor to indicate the importance of this study (3). In spite of the utilization of vaccination to prevent and control the disease, there is necessity to treat sick animals on sudden death occasions through antimicrobial use. The indiscriminate use of these antimicrobials makes necessary to proceed strains of *Streptococcus suis* to laboratory tests to determine the in vitro sensitivity front different available antimicrobials, to get a better success on the treatment. The objective of this study was to evaluate the sensitivity of *Streptococcus suis* strains front different antimicrobials.

Materials and Methods

Two hundred twenty one *Streptococcus suis* strains had been isolated, been eighty one from lungs, thirty three from snouts, twenty five from tracheas and eighty two from brains. These strains had been isolated from nine States from Brazil (MG, SP, GO, PR, SC, RS, ES, RJ and MS). The *Streptococcus suis* isolation had been made through described methodology (4) and the biochemistry identification carried trough by the morphologic colony characteristics and biochemistry tests, also described (4). After isolation, the disc diffusion antibiogram had been carried through in Mueller Hinton agar, as described (4), with adopted quality criteria. The selected antibiotics were Lincomicine (9mcg), Gentamicin (10mcg), Florfenicol (30mcg), Speramycin (100 mcg), Amoxicillin (10 mcg), Enrofloxacin (5 mcg), Norfloxacin (10 mcg), Ciprofloxacin (30 mcg), Doxaciclin (30 mcg), Oxitetracilin (30 mcg), Josamicine (150 mcg) and Sulfamethoxazole+Trimethropin (25 mcg) with the concentration discs in the respective parenthesis.

Results

The test results are listed in table 1. The antimicrobials had presented greater resistance were Lincomicin, Oxitetracilin, Sulfamethoxazole + trimethropin and Speramycin. The antimicrobials that had presented lower resistance were Amoxicillin, Florfenicol and Enrofloxacin.

Discussion

This study results differs from a result gotten in the year of 1994 (5), where the authors had suggested

the utilization of Sulfamethoxazole + Trimethropin as an alternative drug to prevent and control the disease caused by *Streptococcus suis*.

Table 1. In vitro sensitivity test results

Tested antibiotics	Sensible samples	Resistant samples	Intermediary samples
Amoxicillin	219 (99,1%)	0	2 (0,9%)
Ciprofloxacin	127 (57,47%)	49 (22,17%)	45 (20,36%)
Doxaciclin	112 (50,68%)	51 (23,08%)	58 (26,24%)
Enrofloxacin	187 (84,61%)	13 (5,88%)	21 (9,51%)
Speramycin	59 (26,70%)	124 (56,10%)	21 (9,50%)
Florfenicol	209 (94,57%)	2 (0,9%)	0
Gentamicin	145 (65,61%)	56 (25,34%)	20 (9,05%)
Josamicine	120 (54,30%)	84 (38%)	16 (7,25%)
Lincomicine	2 (0,9%)	212 (95,94%)	7 (3,17%)
Norfloxacin	109 (49,32%)	75 (33,94%)	36 (16,29%)
Sulfa+	66 (29,90%)	125 (56,57%)	29 (13,13%)
Trimethoprim			
Oxitetracilin	35 (15,84%)	155 (70,13%)	31 (14,03%)

In a study carried through in Brazil (6), the authors had found a resistance of 1,9% of the *Streptococcus suis* front the Amoxicillin, suggesting that Amoxicillin can be the antibiotic of choice for the treatment of infections caused by this agent. Others authors (7) had related an increase in resistance of *Streptococcus suis* strains front different antimicrobials available in the market, with related cases of resistance since the year of 1980, what each time more imposes the necessity to make antibiograms to know the sensitivity of different isolated strains. The results of this study had demonstrated the presence of the *Streptococcus suis* in many states of the country, strengthening its importance as swine pathogen and the risks for the public health, and the necessity to know the agent sensitivity profile.

References

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