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GENETIC DIVERSITY OF *Actinobacillus pleuropneumoniae* (App) STRAINS IN INTENSIVE SWINE FARMS IN CHILE

V Neira-Ramirez[1], R Cubillos[1], A Ruiz[1]
Dept. Pathology & Preventive Med, CVM, Universidad de Concepción, Chillan, Chile.

Introduction

Actinobacillus pleuropneumoniae (App) is the etiologic agent of porcine contagious pleuropneumonia (PCP), an important bacterial disease in intensive pig production. In the world were described 15 App serotypes based in capsular antigen. The traditional serotyping technique is slow, expensive and difficult; today, a molecular tool means PCR is available to "serotyping" by Apx toxins genotyping, quickly, non-expensive (Rayamajhi et al. 2005).Today, in Chile don't have information about the circulating App serotypes, only 2 outbreaks have been characterized, which found the serotypes 1 and 5 (Olivares & Morgado 1988). The aims of study are determinate the serotype presents in intensive swine farms using a PCR technique.

Material and Methods

Thus, 60 App strains were evaluated, isolated from 9 intensive swine systems, and included the largest production farms, in 4 Chilean regions. The isolates were obtained from lungs of pigs with PCP. All the strains were isolated during the years 2007, 2008 and 2009, by conventional bacteriology and confirmed by API. A multiplex PCR for Apx toxin genes was performing to differentiate the App serotypes (Rayamajhi et al. 2005).

Results and Discussion

The results are summarized in table 1. Only serotypes 4, 6 and 7, were found. The most frequently isolated was the serotype 7. Don't determinate a predominant serotype, except in O'Higgins and Bio-Bio where the serotype 7 was most isolated. The present study is the first approach in order to know the distribution of serotypes of App in Chile. In order to know the real diversity of serotypes and genotyping in Chilean farms are necessary to consider studies that include more isolates per farm.

References

Olivares P 1988 Arch Med Vet 20, 147-152.
Rayamajhi N 2005 J Vet Diag Invest 17, 359 362.

Table 1. Summary of results in farms, years and geographical regions.

	Classification	Nº Isolates/(%) total	Serotype 4	Serotype 6	Serotype 7
Farm	A	9 (15%)^{xy}	1	2	6
	B	5 (8%)^{xy}	1	0	4
	C	5 (8%)^{xy}	1	3	1
	D	21 (35%)^{z}	1^{a}	3^{a}	17^{b}
	E	10 (18%)^{y}	0	6	4
	F	3 (5%)^{xy}	1	1	1
	G	1 (1,7%)^{x}	1	0	0
	H	1 (1,7%)^{x}	1	0	0
	I	5 (8%)^{xy}	0	2	3
Year	2007	15 (25%)	2	5	8
	2008	24 (40%)	3	9	12
	2009	21 (35%)	2^{a}	3^{a}	16^{b}
Region	Metropolitana	7 (12%)^{x}	2	2	3
	O'Higgins	14 (23%)^{x}	2^{a}	2^{a}	10^{b}
	Maule	8 (13%)^{x}	2	4	2
	Biobío	31 (52%)^{y}	1^{a}	9^{a}	21^{b}
	Total	60 (100%)	7^{a}	17^{a}	36^{b}