Comparative study of gross lesions in pigs inoculated with a *Glaesserella parasuis* TbpB^{Y167A} mutant-based vaccine and challenged with Spanish clinical isolates of *G. parasuis*

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Introduction

Glaesserella parasuis (Gp) is a Gram-negative bacillus which causes Glässer's disease (GD), being responsible for high morbidities and/or mortalities in pig intensive farms **(1)**. Vaccination is considered the best choice to prevent and control GD **(2)**. This study tested the effectiveness of a vaccine based on a *Gp* TbpB^{Y167A} mutant in colostrum-deprived piglets challenged with four Spanish clinical isolates each belonging to one serovar.

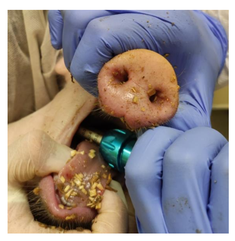
Materials and Methods

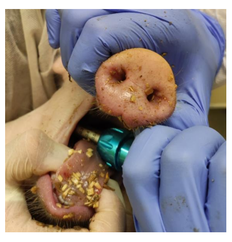
Days 0-15

VACCINATED

CONTROL

Immunization
(*Gp* TbpB^{Y167A} mutant)





Day 15 Day 30

Challenge
(1×10^6-1×10^7 CFU/mL of Spanish clinical *Gp* strains)

Day 45

- Serovar 1 (n= 9)
- Serovar 4 (n= 9)
- Serovar 5 (n= 10)
- Serovar 7 (n= 10)

Results

	Serovar 1	Serovar 4	Serovar 5	Serovar 7
Non-vaccinated control piglets				
Peritonitis	100% **(Fig. 1)**	50%	100%	100%
Pericarditis	100%	50%	100% **(Fig. 3)**	100%
Arthritis	50%	50% **(Fig. 2)**	100%	40%
Gallbladder edema	100%	50%	60%	80%
Lung hemorrhages	-	-	-	60% **(Fig. 4)**
Spontaneous death	100% (4/4)	100% (4/4)	100% (5/5)	100% (5/5)
Gp TbpB^{Y167A} vaccinated piglets				
Peritonitis	40% **(Fig. 5)**	40%	20%	80%
Pericarditis	40%	40%	- **(Fig. 7)**	80%
Arthritis	40%	- **(Fig. 6)**	20%	20%
Gallbladder edema	20%	20%	40%	60%
Lung hemorrhages	-	-	-	20% **(Fig. 8)**
Spontaneous death	60% (3/5)	- (0/5)	20% (1/5)	40% (2/5)

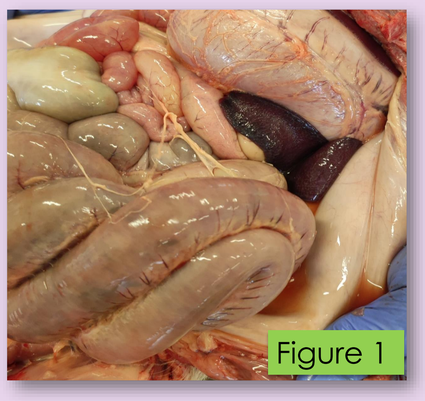


Figure 1

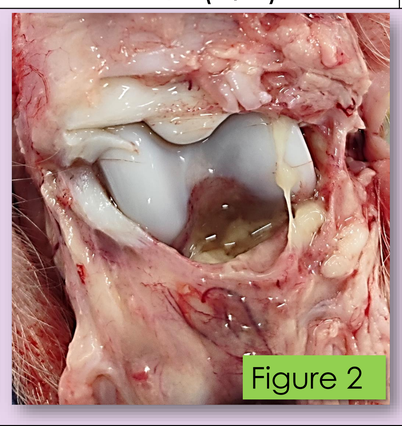
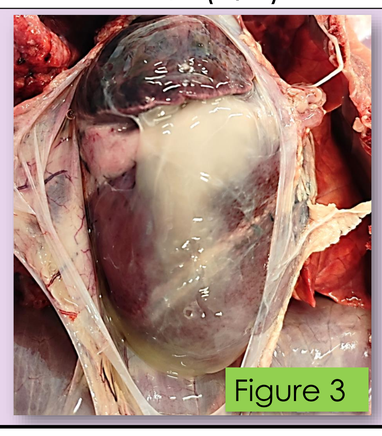


Figure 2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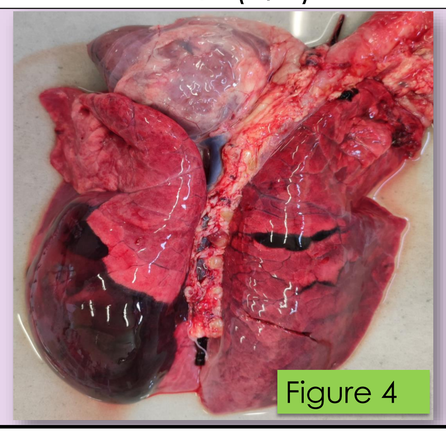
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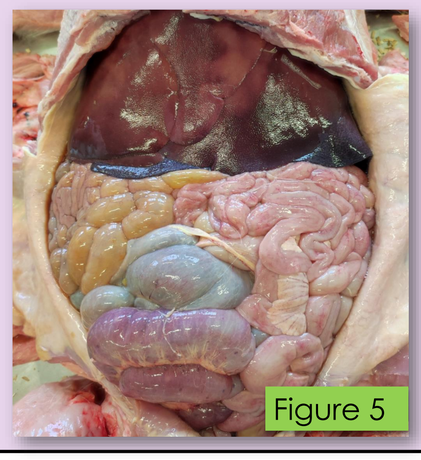
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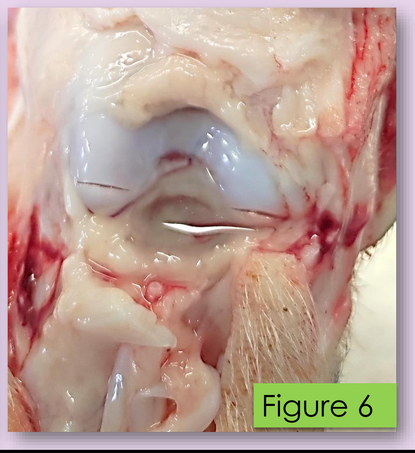
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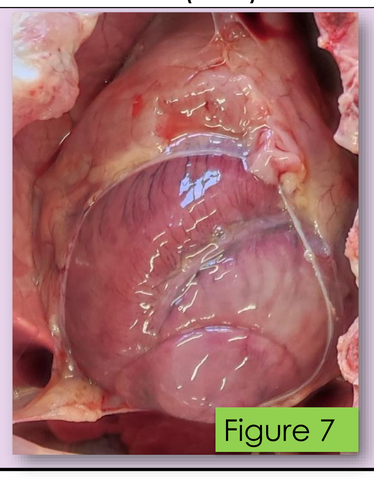
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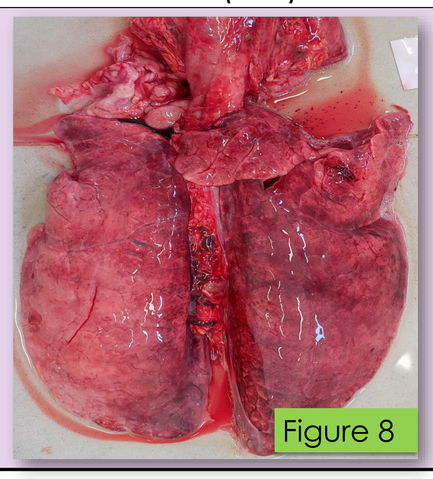
Figure 8

Conclusion

The effectiveness of TbpB^{Y167A} -based vaccine varied according to the serovar, but always decreasing gross lesions in vaccinated pigs.

References
1. Oliveira *et al.* (2004) Vet. Microbiol. 99, 1-12.
2. Zhao *et al.* (2017) Can J Vet Res. 81(1), 22-27.

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