

EFFICACY OF A NEW INACTIVATED VACCINE AGAINST *Chlamydia abortus* AND *Salmonella enterica* serovar Abortusovis EXPERIMENTAL CHALLENGES OF PREGNANT EWES

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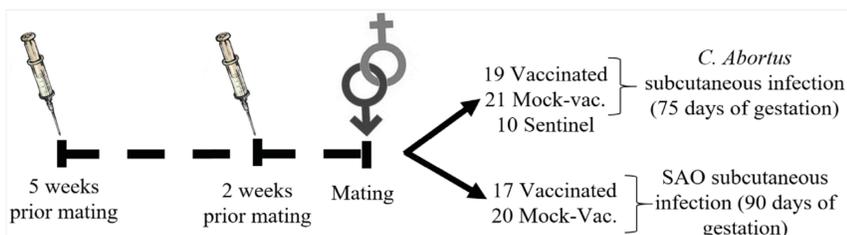
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OBJECTIVES

To evaluate the efficacy of a new inactivated vaccine (HIPRA, Spain) against *Chlamydia abortus* and *Salmonella enterica* serovar Abortusovis (SAO) after an experimental subcutaneous challenge of those pathogens with heterologous strains in pregnant ewes.

MATERIALS AND METHODS

Eighty-seven ewes were randomly distributed in two groups, 36 vaccinated and 51 control and were vaccinated and infected as described:



Reproductive disorders (i.e. abortions, stillbirths or neonatal deaths), shedding (before challenge and the day of abortion/parturition) and antibody response were registered and monitored after both experimental challenges. Furthermore, shedding was monitored on the following three weeks after parturition or abortion in *C. abortus* infected animals. On the other hand, shedding of animals infected with SAO was monitored from 10 to 40 days post-challenge.

RESULTS

Similar results were observed in both experiments, after experimental challenge, vaccinated animals showed a statistically significant reduction ($P < 0.05$) of reproductive disorders (Figure 1) and shedding (Figure 2) caused by *C. abortus* or SAO compared to control animals.

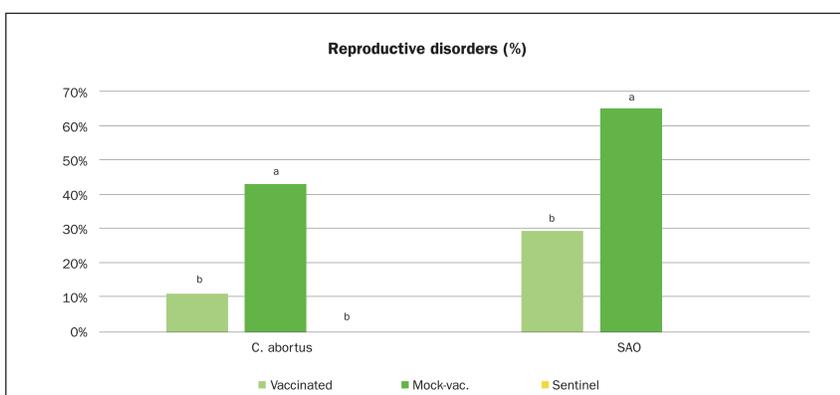


Figure 1: Percentage of reproductive disorders caused by *C. abortus* or SAO per group, at the end of the study.

^{a,b}: Different superscript indicates significant statistical differences ($P < 0.05$).

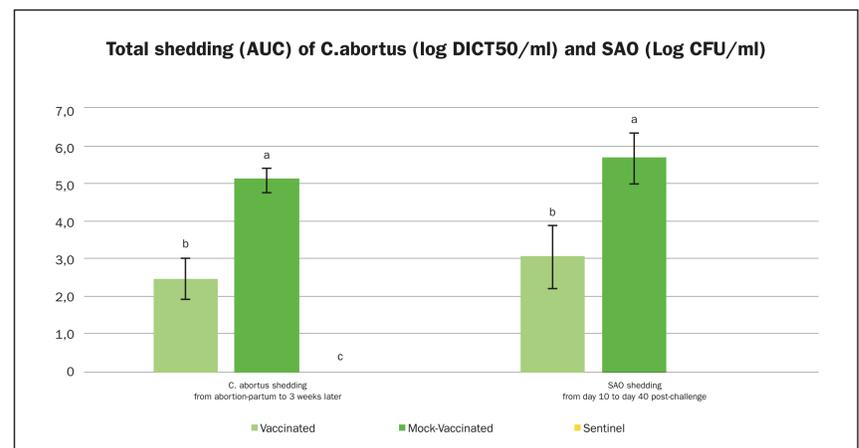


Figure 2: Total shedding (AUC) of *C. abortus* or SAO of each group from abortion or parturition day up to three weeks later or from 10 to 40 days post-challenge, respectively.

^{a,b}: Different superscript indicates significant statistical differences ($p < 0.05$).

Vaccinated ewes had significant ($P < 0.05$) greater antibodies titers than control animals (Figure 3). After challenge, both groups had similar levels of antibodies.

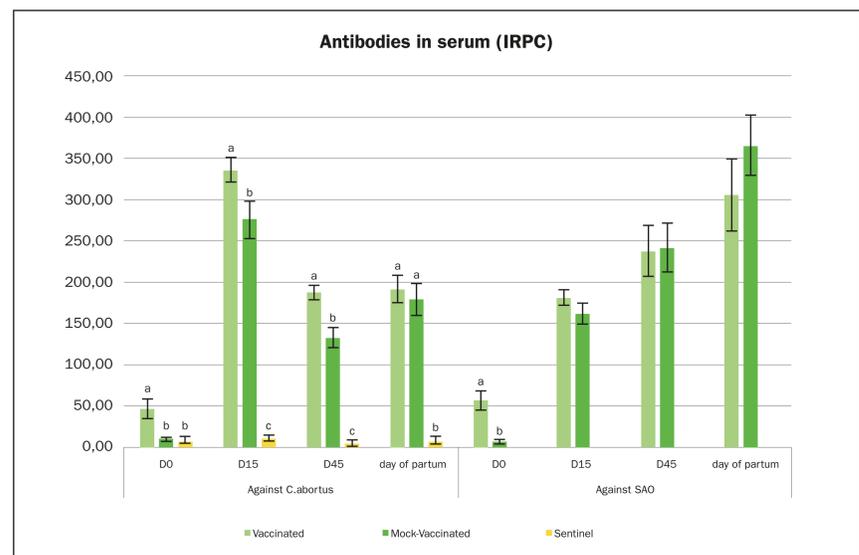


Figure 3: Average of antibodies against *C. abortus* or SAO in serum per groups during all the study.

^{a,b}: Different superscript indicates statistically significant differences ($p < 0.05$).

CONCLUSION

The results presented in this study demonstrate that the subcutaneously immunization of ewes with this new inactivated vaccine (HIPRA, Spain) against *Chlamydia abortus* and *Salmonella enterica* serovar Abortusovis (SAO) significantly reduces the number of reproductive disorders, reduce the total shedding and induce a serological response after a subcutaneous infection of *Chlamydia abortus* or *Salmonella enterica* serovar Abortusovis (SAO) heterologous strain.