

SUB-ÁREA: Vacinas e controle da leptospirose

Efficacy of leptospirosis vaccination in small ruminants: Systematic review and meta-analysis

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Leptospirosis is an important cosmopolitan disease related to public health and livestock, and it has a negative influence on animals' reproduction and productive potential. Vaccination is one of the important tools for preventing disease outbreaks, although its use among small ruminants is still insufficient. The objective of the present study was to conduct a systematic review and meta-analysis on studies that evaluated the efficacy of leptospirosis vaccines in sheep and goats. The searches in electronic databases and the process of screening and selection of material yielded nine scientific articles that reported on studies only in the sheep species. Among these articles, five presented sufficient data for a meta-analysis to be performed. These five articles reported on eight different studies evaluating the efficacy of bacterin vaccine as a way to prevent renal colonization by *Leptospira* spp., after experimental challenge or natural infection by the Hardjo and/or Pomona and Guaricura serovars. The meta-analytical combination resulted in a relative risk (RR) of 0.23 (95% CI: 0.09-0.55), thus indicating that vaccination was a protective factor against renal colonization and urinary shedding of *Leptospira* spp. Although the result from the meta-analysis indicated that vaccination was effective, the small number of studies prevented a more careful evaluation of the use of bacterins against leptospirosis in sheep. Nonetheless, this result provides encouragement for vaccination of flocks in regions with high prevalence rates of this disease, in an attempt to reduce reproductive losses. Moreover, it stimulates further research on vaccines and vaccination against leptospirosis among small ruminants, especially through use of serovars that are more prevalent in certain areas or regions.

Keywords: Sheep; Hardjo; Pomona; immunogenicity; *Leptospira* spp.

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