

42 dogs (32.1%) presented seroreactivity (titres ≥ 100) to at least one serovar. Serogroup Icterohaemorrhagiae was the most frequent, 92.7% of the seropositive samples. Leptospiral DNA was detected by PCR on 26 urine samples (19.8%). PCR results, which indicate the carrier status, were not associated to the serology ($p = 0.10$). From the 26 PCRpos samples, 12 (46%) were also seropositive, while among the 105 PCRneg, 75 (71%) were seronegative. Age was not associated to seropositivity ($p > 0.05$), but dogs older than five years of age presented 4.07 more chances (odds ratio) to be leptospiral carriers (PCR positive) than the younger ones. **Conclusion:** Serology is not a good method to identify asymptomatic leptospiral kidney-carriers because of the low positive predictive value of the serological test. It was demonstrated that urinary PCR is a strong tool recommended for the detection of leptospiral carriers among asymptomatic dogs. Despite the limitations of urinary research of leptospire, which is influenced by the intermittent urinary elimination, 20% of the dogs examined were eliminating leptospire at the time of sampling. The obtained results demonstrated the occurrence of a serious public health problem. **Ethics committee approval number:** uff, number 709. **Funding:** This study was supported by the Fundação de Amparo à Pesquisa do Estado do Rio de Janeiro (Faperj).

22. HIGH PROPORTION OF CATTLE AND SHEEP SEROPOSITIVE AND RENAL CARRIERS OF LEPTOSPIRA SP. UNDER SEMIARID CONDITIONS

Alta proporção de bovinos e ovinos soropositivos e portadores renais de *Leptospira* sp. sob condições semiáridas

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Introduction: The development of cattle and sheep farming is of paramount importance for Brazilian agriculture. Leptospirosis is caused by bacteria of the genus *Leptospira* sp. and stands out as causing serious reproductive problems in ruminants. **Objective:** Serological and molecular characterizations of *Leptospira*

sp. infection in cattle and sheep under semiarid conditions. **Methods:** Blood and urine samples were collected from 99 females of reproductive age (51 cattle and 48 sheep) for serological diagnosis (MAT; cut-off = 100), molecular detection and *Leptospira* sp. culturing. **Results:** Of the 99 examined animals, 38.4% (38/99) were reactive at the serological tests. Of them, 49% (25/51) were cattle and 27.1% (13/48) sheep. The serogroups detected in cattle were Sejroe (36.8%), Hebdomadis (26.3%), Australis (10.5%), Djasiman (10.5%), Balum (5.3%), Pomona (5.3%), and Cynopteri (5.3%) with titers of 100-800. In sheep, the reactive serogroups were Australis (27.3%), Balum (27.3%), Djasiman (18.1%), Tarassovi (9.1%), Icterohaemorrhagiae (9.1%), and Cynopteri (9.1%) with titers of 100-400. Leptospiral DNA was detected in nine urine samples, five cattle and four sheep. Farm 1 showed the highest serological positivity frequencies for both cattle (70.6%) and sheep (70.6%). Similarly, Farm 1 presented highest frequency of DNA detection (eight samples, 89%). In this property, it was observed the existence of consorted rearing of cattle and sheep with close coexistence between these species. **Conclusion:** In semiarid conditions, transmission among animals of the same species seems to be the main form of *Leptospira* dissemination in cattle and sheep herds. However, the contribution of other domestic and wild animals cannot be discarded. The practice of consorted rearing of cattle and sheep and their close coexistence may facilitate the spread of the pathogen in rural properties. **CEUA:** UFCG/20-2012. **Funding:** CNPq/Capes.

23. HISTOPATHOLOGICAL EVALUATION OF TISSUES FROM HAMSTERS (*MESOCRICETUS AURATUS*) EXPERIMENTALLY INFECTED WITH STRAINS OF LEPTOSPIRA SPP. FROM DIFFERENT SEROGROUPS

Avaliação histopatológica de tecidos de hamsters (*Mesocricetus auratus*) experimentalmente infectados com estirpes de *Leptospira* spp. de sorogrupos diferentes

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Introduction: Leptospirosis is an infectious disease determined by the different serogroups of *Leptospira*

spp. that affects several animal species, including humans. Studies with experimental infection are essential for understanding the transmission, colonization and pathogenesis of leptospirosis. Some studies demonstrated differences in *Leptospira* spp. infection by varying the inoculation route, the inoculum dose and the inoculated strain, but few have evaluated the particularities of infection by strains of different serogroups in the same study that was performed in the present study. **Objective:** To evaluate histopathological lesions in hamsters tissues experimentally infected with *Leptospira* spp. of different serogroups. **Methods:** Thirteen strains of leptospires were inoculated in hamsters, being eight belonging to the serogroup Icterohaemorrhagiae and five to the serogroup Sejroe. Each strain was inoculated four times in hamsters with one hamster per passage and the histopathological analyzes (Hematoxylin-eosin staining) were performed on the tissues of the fourth passage hamsters. Fifty three hamsters have been studied, in which thirteen were fourth passage hamsters and one was the negative control. **Results:** Degeneration in the cortical and medullar region with different degrees of lesion were observed more frequently in the kidneys of the animals infected with the strains of serogroup Icterohaemorrhagiae and Sejroe, being seven hamsters infected with strains of serogroup Icterohaemorrhagiae and five hamsters infected with strains of serogroup Sejroe. The presence of sinusoid congestion was statistically significant in the livers from hamsters infected with strains of serogroup Icterohaemorrhagiae ($p = 0,016$) as well as the presence of hepatocyte degeneration was statistically significant ($p = 0,012$) in hamsters infected with strains of serogroup Sejroe. In the lungs of animals infected with strains of serogroup Icterohaemorrhagiae and Sejroe all presented emphysema and atelectasis in different lesion degrees. Congestion and hemorrhages were observed only in four hamsters infected with strains of serogroup Icterohaemorrhagiae. **Conclusion:** Serogroups Icterohaemorrhagiae and Sejroe produced different lesions in the tissues of infected hamsters, with statistical significance for the presence of sinusoid congestion in the livers from hamsters infected with strains of Icterohaemorrhagiae serogroup and hepatocyte degeneration in hepatic tissues of hamsters infected with strains of Sejroe serogroup. **CEUA:** 611/2016 (CEUA-UFF). **Funding:** Capes (Finance code 001), Faperj.

24. HISTORICAL REVIEW OF EXPERIMENTAL INFECTION BY LEPTOSPIRAS IN RUMINANTS

Revisão histórica de infecção experimental por leptospiros em ruminantes

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Introduction: Leptospirosis is an infectious disease caused by pathogenic spirochetes of the genus *Leptospira*. It affects domestic and wild animals and is characterized as a zoonotic disease. Leptospiral infection causes significant economic losses to livestock, mainly due to abortions, premature births, stillbirths, and weak calf syndrome. The first studies performed on this subject were focused on the observation of the pathological alterations caused by the inoculation of serovar Pomona in cows, reproducing the acute disease, with jaundice, hematuria, fever, and abortions. In other decades, other experimental infections were conducted in ruminants, describing the clinical presentation of the infection by Hardjo and other serovars, with a large variation of the clinical signs as fever, abortion, prostration, mastitis, placenta retention. **Objective:** Despite of the outcomes from experimental infections in ruminants worldwide, there is a large discrepancy regarding to the ideal dose, via, strain, model species or animal age to be used in generation of leptospirosis (different clinical presentations) in ruminants. This study aims to reduce the lacunae of the experimental infection of leptospires in ruminants, through a historical survey. **Methods:** Experiments that clearly described inoculation pathways, strain, dose concentration, clinical signs and animal age were selected. **Results:** Overall, from 29 different papers, 33 experiments were elected, clinical manifestations occurred mainly in young animals with less than one year of age and pregnant ruminants, infected with strains at high doses and through the systemic route. **Conclusion:** The experimental model of systemic and reproductive acute leptospirosis in ruminants has been well established with experiments determining that young and pregnant animals infected by systemic routes with high doses and incidental strains cause acute disease. However, studies focused on the chronicity