

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

of the disease are requiring more research for a better understanding, mostly in reproductive area. **CEUA:** Not applicable. **Funding:** Faperj.

25. INFECÇÃO POR *LEPTOSPIRA* SP. PATOGENICA EM AMOSTRAS DE ASPIRADO FOLICULAR DE VACAS NÃO PRENHES

Infection by pathogenetic *Leptospira* sp. in samples of follicular aspiration of non-pregnant cows

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Introdução: A leptospirose em vacas é uma doença de rebanhos caracterizada por desordens reprodutivas (morte embrionária, abortamentos e nascimento de bezerros fracos). As investigações já realizadas demonstraram a infecção por *Leptospira* sp. em diversas regiões do aparelho genital de vacas (especialmente útero e fluido vaginal). **Objetivo:** Identificar a infecção por *Leptospira* sp. patogênica em amostras de aspirado folicular de vacas não prenhes abatidas em matadouro estadual. **Métodos:** Amostras de aspirado folicular foram coletadas de 29 vacas não gestantes, destinadas ao abate em matadouro frigorífico sob inspeção estadual. PCR do gene LipL32 foi realizada a fim de detectar infecção do aspirado folicular por leptospirosas patogênicas. **Resultados:** No total, 13/29 (44,83%) amostras apresentaram DNA de leptospirosas na PCR, confirmando a infecção do folículo ovariano. **Conclusão:** A alta positividade da infecção por *Leptospira* sp. em amostras de aspirado folicular confirma a distribuição dessa bactéria pelo trato reprodutivo dos bovinos, além da possibilidade de infecção do oócito ainda no ovário. Essa infecção poderia levar à perda embrionária e/ou não fertilização, causando possível repetição de cio nos animais. **CEUA:** Número 863 (Ceua/UFF). **Agências de fomento:** CNPq, Faperj.

26. INFLUÊNCIA DE LEPTOSPIROSE EM ALGUMAS CARACTERÍSTICAS REPRODUTIVAS DAS FÊMEAS BOVINAS LEITEIRAS

Influência da leptospirose em algumas características reprodutivas das fêmeas bovinas leiteiras

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Introduction: In bovine, leptospirosis is associated with significant economic losses due to the high rates of infertility and abortion, and reduction in the milk production with consequent depreciation of dairy herds. **Objective:** To verify the presence of antibodies against pathogenic *Leptospira* in a dairy herd located in the north region of São Paulo State, Brazil and to evaluate the influence of leptospirosis on the reproductive parameters of the herd. **Methods:** It was examined blood samples from 233 bovines (females) in the reproductive phase using the microscopic agglutination test (MAT) technique against 22 pathogenic *Leptospira* serovars. The reproductive variables were analyzed using information in the reproductive history of each female: numbers of deliveries, the calving interval between and number of services per conception both in positive and negative animals. Tukey test at 5% probability was used for results analysis. **Results:** Negative results were found in 148 females by the MAT technique. In these animals, it was observed 592 births with an average of four births per animal. The mean obtained in relation to the calving interval was 477,5 days. The average number of services per conception was 1.8. In the 85 females that presented positive results (36.4%), it was observed 353 deliveries with a mean of 4.2 per animal. The mean birth interval was 451.6 days. The average number of services per conception was 1.6. Serological reactions were obtained with four serovars: Hardjo (65.8%), Pomona (14.1%), Icterohaemorrhagiae (11.7%) and Canicola (8.2%), with titers ranging from 200 to 3,200. There was no significant difference between both groups (positive and negative) in the studied variables ($p > 0.05$). **Conclusion:** *Leptospira* is