

#### 41. PRESENÇA DE ANTICORPOS CONTRA O SOROGRUPO DJASIMAN NO SORO DE VACAS EM LACTAÇÃO NAS MESORREGIÕES SUDESTE E SUDOESTE DO RIO GRANDE DO SUL, BRASIL

Presence of antibodies against the Djasiman serum group in the serum of cows in lactation in the southeast and southwestern mesoregions of Rio Grande do Sul, Brazil

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**Introdução:** A leptospirose é uma zoonose com distribuição mundial causada por bactérias patogênicas do gênero *Leptospira* spp. Em bovinos, a doença está associada a transtornos reprodutivos e os sorogrupos prevalentes são: Sejroe e Pomona. O sorogrupo Djasiman é pouco citado na literatura, apresentando baixa prevalência no rebanho bovino. **Objetivo:** Investigar a prevalência de anticorpos contra *Leptospira* spp. e identificar os sorogrupos prevalentes em vacas em lactação nas mesorregiões sudeste e sudoeste do estado do Rio Grande do Sul, Brasil. **Métodos:** Foram coletadas 149 amostras de soro de vacas em lactação localizadas em 22 propriedades das mesorregiões sudeste e sudoeste do estado do Rio Grande do Sul, Brasil. A amostragem aleatória simples foi realizada considerando a soroprevalência esperada de 50%, nível de confiança 95% e erro amostral 5%. No momento da colheita, foi aplicado um questionário epidemiológico. Todos os soros foram submetidos ao teste de soroaglutinação microscópica (SAM), avaliando-se a presença de anticorpos aglutinantes contra 12 sorogrupos de *Leptospira* spp. Os soros que apresentaram aglutinação  $\geq 50\%$  na diluição de 1:100 foram considerados como positivos e diluídos até 1:3200, para determinar o título de anticorpos. **Resultados:** A soro prevalência encontrada (77,18%) foi acima da esperada e os sorogrupos prevalentes foram Djasiman (58,26%) e Icterohaemorrhagiae (6,09%). A alta prevalência do sorogrupo Djasiman sugere infecção incidental pelo contato com urina de animais silvestres infectados, como roedores e gambás, atuando como hospedeiros de manutenção. Novos estudos são necessários

para verificar os fatores de risco e com a confirmação definitiva do sorovar presente com procedimentos de cultivo, isolamento e tipificação. **Conclusão:** Foi constatada uma alta prevalência de reações para sorogrupo Djasiman em rebanhos de bovinos das mesoregiões sudeste e sudoeste do estado do Rio Grande do Sul, Brasil, demonstrando a importância da sua inclusão nas coleções de antígenos utilizadas para a vigilância epidemiológica da doença. Sugere-se que novos estudos sejam realizados para confirmar a identidade da estirpe de leptospira que está circulando na região, esclarecer os respectivos fatores de risco regionais e orientar as medidas de controle e prevenção a serem adotadas.

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#### 42. PREVALENCE AND RISK FACTORS TO LEPTOSPIRA SP. INFECTION IN DOGS ATTENDED AT VETERINARY CLINICS IN JOÃO PESSOA, PARAÍBA STATE, NORTHEASTERN BRAZIL

Prevalência e fatores de risco para infecção de *Leptospira* sp. em cães atendidos em clínica veterinária em João Pessoa, estado da Paraíba, Nordeste do Brasil

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**Introduction:** From the one health point of view canine leptospirosis is a disease of great relevance since dogs are sources of infection of leptospires to human beings. **Objective:** To determine the prevalence and risk factors associated with *Leptospira* sp. in dogs attended at veterinary clinics in the city of João Pessoa, State of Paraíba, Northeast Brazil. **Methods:** A total of 384 blood samples from dogs from 34 private veterinary clinics were collected from April 2015 to May 2016. The diagnosis of *Leptospira* sp. was carried out through Microscopic Agglutination Test (MAT), using a collection of 20 pathogenic antigens and adopting a 1:100 dilution as cutoff point. An epidemiological questionnaire was applied to the animal's owners for obtaining the information used in the risk factors analysis. **Results:** The prevalence of seropositive animals was 11.7% (45/384), with reactions

for the serogroups Icterohaemorrhagiae (62.3%), Grippotyphosa (22.2%), Canicola (13.3%), Djasiman (2%) and Pomona (2.2%). The risk factors identified were: age from 49 to 72 months (odds ratio = 2.74), Age > 72 months (odds ratio = 3.22), and monthly cleaning of the environment where the animals are kept (odds ratio = 10.7). **Conclusion:** It is concluded that dogs attended in private veterinary clinics in João Pessoa, Paraíba, Brazil are exposed to infection by *Leptospira* sp. with predominance of serogroups maintained by wild animals. It is suggested that the cleaning frequency of the environment where the animals live should be improved. **CEUA:** This experiment was approved and performed under the guidelines of Ethics Committee for Animal Protocol Use of Federal University of Campina Grande (Protocol No. 010.2016).

### 43. PRODUCTION OF LEPTOSPIRAL IMMUNOGLOBULIN-LIKE PROTEINS FUSED TO ZZ AND/OR R DOMAINS AND/OR HIV-1 TAT PROTEIN

Produção de proteínas semelhantes à imunoglobulina leptospiral fundidas às proteínas ZZ e/ou domínios R e/ou do HIV-1 TAT

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**Introduction:** Leptospirosis is a zoonotic disease caused by pathogenic spirochetes of the genus *Leptospira* which colonize the renal tubules of wild or domestic animals and are released to the external environment in urine. The development of a vaccine is very important, since the control of carrier animals is difficult. Some vaccines are being used, but they promote protection only against the serotypes present in the preparation and fail to induce long-term immunity. The LigA and LigB proteins are able to induce immunoprotection against leptospirosis, however, it didn't confer sterilizing immunity. **Objectives:** The aim of this study was the cloning, expression, purification and structural characterization of recombinant LigA and LigB proteins fused to the ZZ domain of protein A from

*Staphylococcus aureus*, R domain of diphtheria toxin and the TAT protein of the HIV virus. **Methods:** The LigAC, LigBC (carboxy-terminal portion) and LigBN (amino-terminal portion) were cloned into the expression vector pCP by *SLICE Cloning* technique. The recombinant proteins were expressed in *E. coli* and purified by affinity chromatography and analyzed by circular dichroism spectroscopy. The antigenicity of fusion proteins was evaluated by *ELISA* using sera from hamsters immunized with purified recombinant proteins. **Results:** Each purified recombinant protein showed a major band with expected molecular mass and the structural integrity revealed a predominant b-sheet secondary structure. Robust antibody responses against recombinant proteins were detected in hamsters by *ELISA* analysis. The vaccine potential of these fusion proteins will be tested in challenge studies using hamster model. **Conclusions:** The purification and refolding process was successfully obtained. It is expected that this approach may contribute to increase the immunogenicity of the recombinant proteins through the increased efficiency of antigen presentation processes to the immune system in order to provide a sterile immunization. **CEUA:** 7643121115. **Funding:** FAPESP 2015/19445-8, CNPq and Butantan Foundation.

### 44. RESEARCH OF ANTIBODIES AND DNA OF LEPTOSPIRA SPP. IN BOVINE FETUSES NON-ABORTED COLLECTED IN SLAUGHTERHOUSE

Pesquisa de anticorpos e DNA de *Leptospira* spp. em fetos bovinos não abortados coletados em matadouro

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**Introduction:** Leptospirosis in production animals is characterized by reproductive interference such as infertility, birth of weak calves, stillbirths and abortions, the latter due to infection of the fetus by *Leptospira*, leading to the death of the animal and its elimination, being possible the bacteria detection in samples of these abortions.