

**Objective:** Detect anti-*Leptospira* antibodies in cavity liquids and bacterial DNA in the organs and gastric contents of non-aborted bovine fetuses collected from a slaughterhouse. **Methods:** In a slaughterhouse in the Baixo Tocantins, Pará region, during the slaughter line of bovine females, 58 fetuses at different stages of gestation were collected at random. These animals were necropsied, and during this procedure when observed macroscopic pathological alterations in the organs, was record. The fetal cavity fluids were submitted to the microscopic agglutination test (MAT, cut-off  $\geq 5$ ) to investigate anti-*Leptospira* antibodies; a pool of organs (lung, liver, spleen and kidney) and the gastric contents of each fetus were subjected to polymerase chain reaction (PCR) to detect bacterial DNA. **Results:** None of the 58 fetuses were reactive in serology and neither the DNA of *Leptospira* spp. was detected in the organ and gastric contents of the animals, but in 17.24% of the animals (10/58) macroscopic lesions were found: yellowish liver (80%) and edema and hemorrhagic organs (20%). **Conclusion:** No anti-*Leptospira* antibodies or bacterial DNA were detected in the fetuses, even though, in some animals, macroscopic pathological changes suggestive of leptospirosis were observed. **CEUA:** CEUA/FMVZ/USP No 5893100816. **Funding:** CNPq (MBH fellowship), Capes.

#### 45. SEROPREVALENCE OF LEPTOSPIROSIS IN HORSES WITH REPRODUCTIVE DISORDERS

Soroprevalência de leptospirose em cavalos com transtornos reprodutivos

FARIAS, D. K.;<sup>2</sup> DICK, G.;<sup>1</sup> CUNHA, A. P.;<sup>1</sup> NASCIMENTO, J.;<sup>1</sup> COELHO, M. E.;<sup>1</sup> THOMÉ, J.;<sup>1</sup> RECK, C.;<sup>3</sup> SAITO, M.E.;<sup>2</sup> MENIN, A.<sup>1</sup>

<sup>1</sup>Universidade Federal do Estado de Santa Catarina (UFSC), Florianópolis/SC, Brazil.

<sup>2</sup>Universidade do Estado de Santa Catarina (Udesc), Florianópolis/SC, Brazil.

<sup>3</sup>Laboratory of Veterinary Diagnostic / Institute of Veterinary Research and Diagnostic (VERTÁ).

E-mail: alvaro.menin@ufsc.br

**Introduction:** Leptospirosis is an important zoonotic-disease of global importance and worldwide distribution that cause reproductive failure (abortions/stillbirths) and uveitis in horses. The horses are susceptible to different f *Leptospira* spp. serovars, and the prevalence may vary according to region, seasonality, and risk

factors. **Objective:** To determine the prevalence of anti-*Leptospira* spp. antibodies in horses with clinical reproductive disorders, in the state of Santa Catarina, Brazil. The presence of possible risk factors was also observed. **Methods:** Serum samples of 1095 horses with clinical reproductive disorders were evaluated. This samples were collected in different regions of the State of Santa Catarina, Brazil and tested for anti-*Leptospira* spp. antibodies by microscopic agglutination test (MAT). The tests were performed at the Laboratory of Infectious Diseases (CCR/UFSC). **Results:** The prevalence of anti-*Leptospira* spp. antibodies found was 22.6% (248/1095). Higher prevalence was observed in Vale do Itajaí and Florianópolis, 29,3% (74/252) and South of Santa Catarina State, 26.9% (41/152), respectively. The most reagent serogroups were Icterohaemorrhagiae (24%), Grippityphosa (20.90%) and Canicola (15.70%). The main risk factors identified were relationship with wild animal and other species of domestic animals such as dogs, cattle and sheep. **Conclusion:** The high frequency of anti-*Leptospira* spp. antibodies in the horse herd from Santa Catarina state, Brazil, shows the need of specific measures to control and surveillance this important zoonotic pathogen. **CEUA:** 4299250816. **Funding:** Capes.

#### 46. SOROPREVALÊNCIA DA LEPTOSPIROSE EM ANIMAIS E HUMANOS DOMICILIADOS NAS PROXIMIDADES DE ÁREA DE FRAGMENTAÇÃO FLORESTAL NO ESTADO DO PARÁ, BRASIL

Serum prevalence of leptospirosis in animals and humans domicilated in the surroundings of forest fragmentation area in the state of Pará, Brazil

MONTEIRO, T. R. M.;<sup>1</sup> HONORIO, B. E. T.;<sup>1</sup> GOMES, M. E. T.;<sup>1</sup> REIS, T. A.;<sup>1</sup> ELERES, H. N. F.;<sup>1</sup> BRITO, J. S.;<sup>2</sup> MESQUITA, G. S. S.;<sup>2</sup> ROSÁRIO, M. K. S.;<sup>2</sup> ROCHA, K. S.;<sup>2</sup> MORAES, C. C. G.<sup>1,2</sup>

<sup>1</sup>Laboratório de Zoonoses e Saúde Pública, Faculdade de Medicina Veterinária, Universidade Federal do Pará (UFPA), Castanhal/PA, Brasil.

<sup>2</sup>Programa de Pós-Graduação em Saúde Animal na Amazônia (PPGSAAM), Universidade Federal do Pará (UFPA), Castanhal/PA, Brasil.

E-mail: ccmoraes@ufpa.br

**Introdução:** A leptospirose é uma antropozoonose infectocontagiosa causada por espiroquetas do

gênero *Leptospira*, a sua maior ocorrência é descrita em países tropicais e subtropicais. Investigações sobre a ocorrência da leptospirose em humanos e animais domésticos são importantes para avaliar os fatores biológicos, ambientais e socioeconômicos e culturais que podem favorecer a disseminação e manutenção do agente infeccioso no meio ambiente e em uma região.

**Objetivo:** Detectar anticorpos anti-*Leptospira* spp. em cães, gatos e humanos residentes nas proximidades de área de fragmentação florestal da vila de Ananim, município de Peixe Boi, localizado no nordeste paraense, Brasil. **Métodos:** Foram examinadas 70 amostras de soro de animais (66 cães e quatro gatos) e 70 amostras de humanos. Para a detecção de anticorpos, foi empregado o teste de soroprecipitação microscópica (SAM), utilizando antígenos vivos representativos de 31 sorovares pertencentes a 19 sorogrupos. O ponto de corte foi a diluição 1:100 da mistura soro/antígeno.

**Resultados:** Nenhum gato apresentou aglutinação, os cães registraram 7,1% (5/70) de animais reagentes, os sorogrupos Canicola 60% (3/5) e Pyrogenes 40% (2/5) foram os mais frequentes. Os humanos apresentaram 14,3% (10/70) de indivíduos reagentes, dois indivíduos apresentaram aglutininas para mais de um sorovar, impossibilitando o estabelecimento do sorovar predominante. Nos moradores, as reações mais frequentes foram: Sejroe 20% (2/10), seguido de Celledoni, Autumnalis, Djasiman, Ballum, Semarang e Andamana, com prevalência de 10% (1/10) cada um.

**Conclusão:** As espécies que residem em áreas próximas à fragmentação florestal apresentaram anticorpos anti-*Leptospira*, com predomínio de reações para o sorogrupo Canicola nos cães e Sejroe em humanos, demonstrando que as circulações dos sorogrupos encontrados foram distintas entre os grupos analisados. **CEUA:** Evandro Chagas nº 28/2012. Comitê de Ética Humano nº 1.109.898/2015.

#### 47. SPATIAL DISTRIBUTION OF LEPTOSPIRA SEROVARS IN HORSE POPULATIONS: ANIMAL SEROVAR PREVALENCE AND ASSOCIATED RISK FACTORS

Distribuição espacial de sorovares de leptospira em populações de cavalos: prevalência de sorovar de animais e fatores de risco associados

MACHADO, G.;<sup>1</sup> DIEHL, G. N.;<sup>2</sup> SANTOS, L.;<sup>2</sup> CORBELLINI, L. G.;<sup>3</sup> ROSA, V. B.;<sup>4</sup> RODRIGUES, R. O.<sup>4</sup>

<sup>1</sup>Department of Population Health and Pathobiology, College of Veterinary Medicine, Raleigh, North Carolina, USA.

<sup>2</sup>Secretary of Agriculture, Livestock and Irrigation of State of Rio Grande do Sul (SEAPI-RS), Porto Alegre/RS, Brazil.

<sup>3</sup>Laboratory of Veterinary Epidemiology, Faculty of Veterinary, Universidade Federal do Rio Grande do Sul (UFRGS), Porto Alegre/RS, Brazil.

<sup>4</sup>Desidério Finamor Veterinary Research Institute, Diagnostic and Agricultural Research Department of the Department of Agriculture, Livestock and Irrigation (DDPA / SEAPI), Porto Alegre/RS, Brazil.

E-mail: rogerio-rodrigues@seapi.rs.gov.br

**Introduction:** Leptospirosis is a zoonotic disease, global distributed throughout the horse populations. The control of leptospirosis is often difficult and requires host specific measures, therefore, methods for disease control vary among serovar and, host immunology status. **Objective:** The objective of this study was to estimate the serovar specific prevalence and geographic distribution in the horse populations in Rio Grande do Sul, Brazil, and to determine possible risk factors.

**Methods:** The global and serovar specific prevalence for both animal and farm level were calculated. Positive animals were tested reagent for at least one serovar with a minimum title of 1:100. The animal-level prevalences and, design effects were calculated. Information on the origin of the animal, age, husbandry, presence of weir within the limits of the farm and, environmental characteristics (ecoregion, soil type, temperature, rainfall, altitude) were considered for the risk factor analysis. **Results:** The global animal-level leptospirosis prevalence was 39.5% (CI<sub>95%</sub>: 32.0-48.0%). The most prevalent serogroups were Sejroe 24.4% (CI<sub>95%</sub>: 13.3-40.0%), Tarassovi 14.3% (CI<sub>95%</sub>: 6.6-28.0%) and Hebdomadis 7.3% (CI<sub>95%</sub>: 4,8- 11.0%). The spatial distribution of each serovar revealed preferences for specific regions, suggesting a positive association with climate condition, land use, presence of reservoirs and large number of susceptible hosts. Horse populations at the northwestern and northeastern regions, areas with higher precipitation, and, soil type “Neolithic litolithic” were exposed to increased odds for horse leptospirosis. **Conclusion:** The obtained results suggests that serovars are not distributed at random, maps generated may guide serovar specific vaccination and facilitate disease prevention, as well as highlight