SEROLOGICAL DIAGNOSIS OF LEPTOSPIROSIS AND LABORATORY PROFILE IN CART HORSES FROM CURITIBA, PARANÁ

DIAGNÓSTICO SOROLÓGICO DA LEPTOSPIROSE E PERFIL LABORATORIAL EM CAVALOS DE CARROCEIROS DE CURITIBA, PARANÁ

Mariane Angélica Pommerening Finger¹*, Mariana Yumi Takahashi Kamoi², Pedro Iriene Teider Junior³, Mariana Kikuti³, Leila Sabrina Ullmann⁴, Helio Langoni⁵, Ivan Roque de Barros Filho⁶, Ivan Deconto⁶, Peterson Triches Dornbush⁶, Alexander Welker Biondo⁶

*Autor para correspondência: Mariane Angélica Pommerening Finger. Departamento de Medicina Veterinária, Universidade Federal do Paraná – UFPR, Rua dos Funcionários, 1540 – Juvevê, Curitiba, Paraná, 80035-050, Brasil. Tel.: +55 41 3350 5734 Fax +55 41 3350-5623. E-mail: mari.finger.ufpr@gmail.com.

Summary
Leptospirosis is an endemic zoonotic disease of serious public health risk in Brazil. Currently, cart horses are an emerging urban population used as animal traction for carrying recyclable material and transit through urban centers. Two samplings in cart horses from an endemic area for leptospirosis at the Vila Pantanal, Curitiba –PR were performed with a total of 42 samples. Serology was performed by microscopic agglutination test (MAT). Overall 27/42 (64.28%) samples were reagent to at least one serovar of *Leptospira* spp. The most prevalent serovar was Icterohaemorrhagiae in 25/42 (59.52%) samples. Among reagent horses, 9/27 (33.33%) had high total plasmatic protein 12/27 (44.44%) had high fibrinogen and 2/27 (25.92%) were anemic (hematocrit < 32%). Using Chi square and Fisher’s test was possible to observe that was no difference between reagent and not reagent horses in MAT.

Key words: *Leptospira* spp., cart horses, hematocrit

Resumo
A leptospirose é uma zoonose endêmica e constitui um sério risco à saúde pública no Brasil. Atualmente, os cavalos constituem uma fauna urbana emergente e são utilizados como animais de tração de carroças de coletores de materiais recicláveis que circulam por centros urbanos. Foram realizadas duas colheitas utilizando um total de 42 cavalos de carroceiros em região endêmica para leptospirose humana, na Vila Pantanal, Curitiba-PR. A sorologia foi realizada pela soroaglutinação microscópica (MAT). No total 27/42 (64,28%) amostras reagiram a algum sorovar de *Leptospira* spp. O sorovar mais prevalente foi o Icterohaemorrhagiae em 25/42 (59,52%) das amostras. Dos reagentes, 9/27 (33,33%) estavam com a proteína plasmática total aumentada, 12/27 (44,44%) com o fibrinogênio aumentado e 2/27 (25,92%) anêmicos (hematócrito <32%). Utilizando o teste do Qui quadrado e teste de Fisher foi possível perceber que não houve diferença entre reagentes e não reagentes no MAT.

Palavras Chaves: *Leptospira* spp., cavalos de tração, hematócrito

1 Mestranda do Programa de PPGCV, Universidade Federal do Paraná- Curitiba, Paraná
2 Acadêmicos do curso de Medicina Veterinária, Universidade Federal do Paraná – Curitiba Paraná
3 Residente NUPEZO - DHVSP, Universidade Estadual Paulista Júlio de Mesquita Filho- Botucatu, São Paulo
4 Doutoranda SASPVSA- IBB, Universidade Estadual Paulista Júlio de Mesquita Filho- Botucatu, São Paulo
5 Docente do Departamento de Higiene Veterinária e Saúde Pública, Universidade Estadual Paulista Júlio de Mesquita Filho- Botucatu, São Paulo
6 Docentes do Departamento de Medicina Veterinária, Universidade Federal do Paraná – Curitiba, Paraná
Many horses live in very poor sanitary conditions and have a direct contact with humans, so the study to indentify the occurrence of leptospirosis in those animals become important because they allow more effective prevention methods related with public health. (RADOSTITIS et al, 2002). Studying possible relation of horse bad nutrition and possibly anemia, and high titer to Leptospira spp. it is possible to establish a standard about animal physical conditions and leptospirosis occurrence.

Two collects of blood were performed (May and November 2010) which laboratory and serology were realized. There were 42 cart horses used for collect recyclable material and domiciled in an endemic area for human leptospirosis, Vila Pantanal, Curitiba, Parana State, Brazil. Blood samples were collected with and without anticoagulant (EDTA). The total blood samples were used to obtaining hematocrit (Ht), total plasmatic protein (TPP) and fibrinogen. The hematocrit was determined using Micro hematocrit method (BIRGEL et al., 1982). The evaluation of plasmatic fibrinogen was performed according to Kaneko et al. (1997). The blood samples were tested against 15 serovars: Bratislava, Castellonis, Canicola, Djasiman, Gryppotiphosa, Copenhageni, Icterohaemorrhagiae, Pomona, Pyrogenes, Hardjo, Hardjo Prajitno, Hardjo Miniswajizak, Hardjo C. T. G., Hardjo Bovis, Wolfii and Tarassovi. Statistical analysis was performed (Chi Square and Fischer’s Test) relating reagent and not reagent animals in MAT with laboratorial exams.

A total of 27/42 (64.28%) horses reacted for some serovar of Leptospira spp. After correlating serology and laboratorial tests was possible to observe that 9/27 (33%) of reagent animals were dehydrated (TPP > 8.0 g/dL), while 3/15 (20%) nonreagent ones also had a high total protein. High fibrinogen (> 400 mg/ dL) was observed in 12/27 (44.44%) reagent animals indicating a inflammatory process and 2/27 (7.4%) reagent horses were anemic (hematocrit < 32 %). Among not reagent horses, there were 4/15 (26.66%) with high fibrinogen and 7/15 (46.66%) with anemia. There were no difference between reagent and not reagent horses to Ht (p = 0.17); TPP ( p = 0.19) and fibrinogen ( p = 0.14). A study in horses experimentally infected with Leptospira spp. there was no fibrinogen changes (YAN W, 2010).

Prevalence of 27/42 (64.28%) found in present study can be considered high compared to other researches, including: 757/1402 (54%) in São Paulo, Mato Grosso do Sul and Goiás State (LANGONI H, 1996-2001) and 871/1169 (74.51%) in Rio Grande do Sul ( PIRES NETO et al., 2005). Similar prevalence was found in cart horses from Londrina –PR: 214/320 (66. 88%) (HASHIMOTO et al., 2007).

There was no difference between reagent and not reagent horses in MAT and laboratorial exams in cart horses from Curitiba. It can be inferred that laboratorial exams are not a good parameter to leptospirosis diagnosis.

Referencias Bibliográficas


PIRES NETO JAS, HESSE F, OLIVEIRA MAM. Leptospirose equina: aspectos clínicos, tratamento, prevenção e levantamento sorológico. Veterinária em Foco, 2005, 2:165-176