

CONSENSOS EM LEPTOSPIROSE II

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PHYLOGENETICAL INFERENCES OF FIVE ISOLATES OF SWINE *LEPTOSPIRA* BASED ON 16S AND *SECY* GENES

Inferências filogenéticas de cinco estirpes isoladas de *Leptospira* de suínos baseados nos genes 16s e *secY*

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Introduction: Leptospirosis is a zoonosis responsible for economic and health damages in swine herds. The cultivation and typing of leptospira strains present in one region are still an important subject for disease control.

Objective: To perform the cultivation and molecular characterization of leptospira strains isolated from swine slaughtered in the state of São Paulo, Brazil, in 2016.

Methods: 980 urine samples and 74 kidney samples were collected from swine slaughtered in São Paulo. Samples were cultured in EMJH and Fletcher medium, and the isolates were characterized by serogrouping techniques, *lipL32*-PCR, VNTR, 16S and *secY* sequencing. Phylogenetical inferences were performed with 16S and *secY* loci individually and with two concatenated genes using Bayesian inference. **Results:** Five isolates were obtained from urine and kidney samples, named Unespo1-05. Serogrouping showed three distinct serogroups for the isolates: Icterohaemorrhagiae, Autumnalis and Sejroe. All isolates were shown to be pathogenic by *lipL32*-PCR. Two *Leptospira* species were found: *L. interrogans* and *L. santarosai*. Genotyping by VNTR determined three distinct patterns: Icterohaemorrhagiae/Copenhageni (genotype I3/I6), Guaricura and one undescribed. The Bayesian tree was congruent with the current species classification in their general topology and most clades were highly supported. **Conclusion:**

The isolation of leptospira strains from serogroups Icterohaemorrhagiae and Sejroe should be an alert for surveillance systems and a concern for unique health. The isolates from serovar Autumnalis presented a genotype not yet described, showing a change in the genetic profile that can lead to changes in the behavior and adaptation of the bacterium. The isolates were grouped in phylogenetic trees with other leptospire of the same species, serogroup and geographic region of isolation, showing the importance of knowing the etiologic agent that occurs in each region. **Ceua:** Approved by the Ethics Committee on Animal Use (CEUA) of Unesp, campus Jaboticabal – SP, Brazil, under no. 12276/15. **Funding:** Doctoral Scholarship – CNPq (Processes: 141190 / 2016-7)

OCCURRENCE OF ANTI-LEPTOSPIRA ANTIBODIES IN DOGS IN THE SOUTHWESTERN REGION OF THE STATE OF SÃO PAULO

Ocorrência de anticorpos antiLeptospira em cães na região sudeste do estado de São Paulo

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Introduction: Leptospirosis is an emerging disease with different prevalence in dog populations. Dogs are crucial in the disease epidemiology, acting as accidental or maintenance hosts. Infective serovars present different geographic distribution among these populations, depending on exposure to hosts from infected wild or domestic animal reservoirs. The most common serovars that infect dogs – prior to the introduction of the vaccines against leptospirosis – were Icterohaemorrhagiae and Canicola.

Objective: To analyze the occurrence of anti-leptospira antibodies in dogs from southwestern region of the state of São Paulo, using the microscopic agglutination test (MAT). **Methods:** Blood samples were collected from 449 dogs during a campaign of population control of dogs by UNISA-Projeto Extensão Universitária and Projeto Rondon[®]SP in the municipalities of Apiai, Cananéia and

Itapeva. After the blood serum was obtained, the samples were submitted to MAT using 24 serovars representing 18 *Leptospira* spp. serogroups. There was no information about previous vaccinations against leptospirosis. **Results:** From the 449 samples, 136 (30.29%) were reagents, with titers ranging from 100 to 25,600 for 16 of the 24 serovars tested. All reagent animals were from the municipality of Itapeva. The most probable reagent serogroup was Icterohaemorrhagiae (61.86%) with titers ranging from 100 to 12,800. The second most reagent serogroup was Canicola (16.10%) and titers ranging from 100 to 25,600, followed by Cynopteri (9.32%), Ballum and Sejroe (4.24%), Autumnalis (3.39%), and Hebdomadis (0.85%). **Conclusion:** Anti-*leptospira* antibodies were present in dogs from Itapeva, with predominance of reactions against *L. interrogans* serogroups Icterohaemorrhagiae and Canicola. The campaign of population control of dogs can be applied as a surveillance system for leptospirosis and other diseases in the dog population. **Ceua:** Ceua/Unisa Nº 35/2012 AND 19/2014. **Funding:** CNPq (MBH fellowship), Capes (Finance code 001)

LEPTOSPIROSIS: SEROPREVALENCIA EN POBLACIONES DE EQUINOS Y REFERENTES HUMANOS EN URUGUAY

Leptospirose: Soroprevalência em Equinos e em Referentes Humanos no Uruguai

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Introducción: La leptospirosis equina se cree poco común por ser habitualmente subclínica, pero estudios

recientes sugieren que es una infección extendida geográficamente, con diversos perfiles de incidencia y serovares infectantes. Por su elevado nivel poblacional y su empleo en múltiples tareas, corresponde considerar a los equinos como potencial fuente de infección humana. En Uruguay, hasta el momento, no hay registros de leptospirosis en equinos. Esta enfermedad se asocia principalmente con el reservorio bovino, pero determinados equinos comparten espacios con bovinos y otros animales de producción en establecimientos ganaderos, y en establecimientos de cría existen abundantes roedores atraídos por el alimento y forraje. **Objetivos:** Determinar la prevalencia de infección en poblaciones nacionales de equinos, y su frecuencia en los trabajadores referentes. Determinar aquellos serogrupos más frecuentemente reactivos por MAT. **Metodología:** De abril de 2017 a agosto de 2018 se obtuvieron 258 sueros equinos de 28 establecimientos (ganaderos 79, haras 52, studs 51, Ejército 76). Se obtuvieron también 84 sueros de trabajadores. En los equinos, se realizó MAT con este panel de serovares: Castellonis, Canicola, Icterohaemorrhagiae, Grippotyphosa, Pomona, Wolffii, Hardjo, Tarassovi, Hardjobovis. En los trabajadores, se utilizó un panel más amplio. En equinos, se consideró positivo un título ≥ 100 ; en trabajadores, ≥ 400 o seroconversión. Se aplicaron cuestionarios recogiendo información sobre equinos, trabajadores, condiciones de trabajo, ambientales y del entorno. **Resultados:** Se observó una seroprevalencia total de un 37,7%: el 26,8% para Icterohaemorrhagiae, el 15,2% para Sejroe, el 5,4% para Ballum y un 4,3% para otros serogrupos. Los mayores valores se observaron en equinos del ejército (47,8%), pero no hubo diferencias significativas en seroprevalencia por tipo de establecimiento. Sólo se observó reactividad en dos trabajadores de establecimientos ganaderos, con títulos ≤ 200 , sin sintomatología asociada. **Conclusión:** Se prevé avanzar en diagnósticos de esta enfermedad, en aislamiento de cepas infectantes, e inclusión en los paneles MAT de cepas circulantes en Uruguay para mejorar su sensibilidad. **Financiamiento:** Programa VUSP 2017, CSIC, UdelaR.