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**2-hour Oral Session**  
**Zoonotic diseases**

**Human leptospirosis in French Guiana: first multicentric transversal study (2007-2014)**

Paul Le Turnier\*<sup>1</sup>, Loic Epelboin<sup>1</sup>, Emilie Mosnier<sup>1</sup>, Roxane Schaub<sup>2</sup>, Anne Jolivet<sup>3</sup>, Alain Berlioz-Arthaud<sup>4</sup>, Pascale Bourhy<sup>5</sup>, Mathieu Picardeau<sup>5</sup>, Magalie Demar<sup>6</sup>, Felix Djossou<sup>7</sup>

<sup>1</sup>*Cayenne Hospital, Infectious Diseases Department, Cayenne, French Guiana*

<sup>2</sup>*Cayenne Hospital, Epidemiological Unit, Cayenne, French Guiana*

<sup>3</sup>*Saint Laurent Du Maroni Hospital, Saint Laurent Du Maroni, French Guiana*

<sup>4</sup>*Pasteur Institute of Guyane, Cayenne, French Guiana*

<sup>5</sup>*Pasteur Institute of Paris, National Reference Center for Leptospira, Paris, France*

<sup>6</sup>*Cayenne Hospital, Parasitology-Mycolology Unit, Cayenne, French Guiana*

<sup>7</sup>*Centre Hospitalier Andrée Rosemon, Unité de Maladies Infectieuses Et Tropicales, Cayenne, French Guiana*

**Background:** Leptospirosis is a worldwide zoonotic bacterial infection. Its incidence is rising and probably underestimated in tropical countries. Until now, French Guiana, a French territory located on the northeastern coast of South America, was not considered as an endemic area. The objective of this study was to describe and evaluate the burden of human leptospirosis in FG.

**Material/methods:** A retrospective study was performed in Cayenne and Saint-Laurent-du-Maroni hospitals in FG, from January 2007 to December 2014. Suspected leptospirosis cases were identified using biological database collected from a private laboratory (CERBA) and the National Reference Center for *Leptospira* (NRCL) in Paris. Confirmed cases were defined as patients with positive PCR in blood, urine or cerebrospinal fluid or Microscopic Agglutination Test (MAT) seroconversion with titer  $\geq 1/200$  or a fourfold increase of MAT titer for paired sera or a MAT titer  $\geq 1/400$  on a single serum and probable cases as patients with MAT titer = 1/200 without seroconversion or MAT titer = 1/100 plus IgM seroconversion or IgM titer  $\geq 1/800$ . Other cases were excluded. All medical files of included patients were retrospectively reviewed. Patients were phone called to collect the data.

**Results:** During the study period (8 years), 72 patients were included. The incidence rate was 4.1/100000 inhabitants per year. Fifty-five (76.4%) cases were confirmed and 17 (23.6%) were probable. The median age was 40.4 years (range: 16-82). Patients were male in 62 cases (86.1%). Fever (91.7%), headache (70.0%), asthenia (61.4%) and myalgia (52.9%) were the most reported symptoms. C-reactive protein initial dosage was superior to 50 mg/L in 88.9% of cases. Chest X-rays showed abnormalities in 48.1% of patients. Sixty-two (86.1%) patients required hospitalization including 12 (16.7%) in Intensive Care Unit (10 received vasoactive drugs, 7 dialysis and 9 mechanical ventilation). Three (4.2%) patients died during hospital stay. Medical files revealed initial leptospirosis suspicion in only 20.0 % of cases. Among the sixteen presumptive infecting serogroups identified,

Icterohaemorrhagiae was the most frequent (38.0%). When the information was available, a professional exposure factor was identified in 64.6% of patients (31/48) with gold mining and building works as the most frequent with 25.0% (12/48) and 14.6 % (7/48) respectively. Other exposure factors were a wild forest trip (23/29), river bathing (13/16) and rodent proximity (13/20).

**Conclusions:** This study revealed human leptospirosis burden was relatively low but potentially underestimated in FG. Clinical picture was not different from dengue nor malaria, other frequent infectious diseases in FG. A prospective study is necessary to accurately estimate the incidence and seek biological or clinical criteria to differentiate leptospirosis from other febrile disease. Multiple implicated serogroups with low share of Icterohaemorrhagiae may reveal a complex environmental reservoir that needs further investigations.