

# **XVIII International Congress for Tropical Medicine and Malaria**

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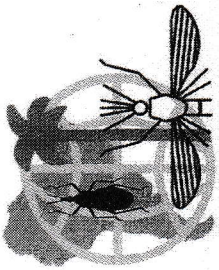
# **XLVIII Congress of the Brazilian Society of Tropical Medicine**

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**XXVIII Brazilian Annual Meeting of Applied Research on Chagas Disease,  
XVI Brazilian Annual Meeting of Applied Research on Leishmaniasis and  
III Latin American Congress on Travel Medicine**

VOLUME I

23 to 27 September 2012 – Rio de Janeiro, Brazil – Royal Tulip Hotel



**XVIII International  
Congress for Tropical  
Medicine and Malaria**

**XLVIII Congress of  
the Brazilian Society  
of Tropical Medicine**

**XXVIII Brazilian Annual Meeting of Applied Research on Chagas Disease, XVI Brazilian Annual Meeting of Applied Research on Leishmaniasis and  
III Latin American Congress on Travel Medicine**

*Certificate*

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This is to certify that  
has attended the **XVIII International Congress for Tropical Medicine and Malaria and XLVIII  
Congress of the Brazilian Society of Tropical Medicine**, held in Rio de Janeiro from September 23 to 27,  
2012, as

**Poster presentation: Chagas disease in Guarani, a rural village within São Sebastião do Alto municipality in the  
state of Rio de Janeiro, Brazil: An eco-epidemiological and serological survey**

Rio de Janeiro, September 27, 2012.

*P. M*  
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Professor Pierre Ambroise-Thomas  
President of the IFIM

*J. Coura*  
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Professor José Rodrigues Coura  
President of the XVIII ICTMM

*Cláudio Tadeu Daniel-Ribeiro*  
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Professor Cláudio Tadeu Daniel-Ribeiro  
President of the Scientific Committee of the XVIII ICTMM

*Carlos Henrique Nery Costa*  
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Professor Carlos Henrique Nery Costa  
President of the SBMT

control studies were conducted and a CD confirmed case was defined as a resident or individuals who visited the small village at September 06 or 08 and presented positive test for *T. cruzi* and controls had negative test for CD. In entomological search the vector's feed source and trypanosomatids presence were conducted. **Results:** Four (25%) of 12 CD acute cases were asymptomatic. All symptomatic reported fever and prostration, 62,5% distended abdomen and epigastric pain and 50% abdominal pain. None of the cases reported inoculation Chagoma or Romana's sign. Also no blood transfusion or organ transplantation was done. None occurred deaths. The main food consumed were rice, beans, fish and sugarcane juice. The exposures associated with the illness were: consumption of sugarcane juice in September 06th (OR: 99; 95%CI: 9-1,058) and 08th (OR: 4.6; 95%CI: 1.1-19.5). There were found seven triatomine *Rhodnius robustus* species in a palm tree near the household, which main feed source was an opossum and trypanosomatids were negative. **Conclusion:** The vector or transfusion transmissions were discarded and gastrointestinal signs detected are common in oral CD acute cases. Sugarcane juice was an associated exposure in this outbreak. We recommended the Municipal Secretariat of Health to use the malaria surveillance to detect CD acute cases earlier in patients with fever. We also recommend to guide the small village population on sugarcane hygiene with water and detergents before use it, and store it in a covered place. **E-mail:** marcelamuhana@yahoo.com.br

### Chagas006- Chagas disease in Guarani, a rural village within São Sebastião do Alto municipality in the state of Rio de Janeiro, Brazil: An eco-epidemiological and serological survey

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**Introduction:** Rio de Janeiro (RJ) state has never been considered a Chagas disease (CD) endemic area. However, some out clinic patients treated in the Clinical Research Institute Evandro Chagas, Oswaldo Cruz Foundation, were born and raised in rural areas of the hilly region of northern Rio de Janeiro state. None of them had received either blood transfusion or organ transplantation, and their mothers were native of the same region. In 2009, we received a 15 year-old girl from São Sebastião do Alto municipality, refused by the bone marrow bank, as she was detected CD positive through serology. The patient's mother was also diagnosed CD positive. In 2010, we conducted a field study involving an epidemiological and serological survey in Guarani, a rural area within São Sebastião do Alto, also a hilly region of Rio de Janeiro state. **Materials and methods:** We visited 106 domiciles in Guarani, collecting 234 human blood samples on filter paper for serology by ELISA and IIFA methods and afterwards applying a questionnaire for epidemiological investigation. Traps were set at various sites in the village for small mammal collection in hopes of disclosing potential *Trypanosoma cruzi* reservoirs. Infection diagnostics were confirmed by both IIFA and hemoculture. Fifty percent of the houses were investigated, searching for triatomines in both intra and peridomestic environments. Parasites isolated from reservoirs were characterized by multiplex PCR of the mini-exon gene. **Results:** The age of volunteers ranged from 2 to 88 years old. Of the 234 blood samples, only two proved serologically *T. cruzi* positive (ELISA and IIFA), both from the two patients (mother and daughter) already identified with the disease (prevalence 0.85%). Sixty-five residents (27.7%) reported some knowledge concerning the bugs. The consumption of game meat (opossum, armadillo, Brazilian guinea pig, paca) was reported by 65% of the inhabitants and fresh sugar cane juice by 77%. Seven triatomines, all adult *Triatoma vitticeps*, were captured in five houses, three in the positive patients' domicile. All bugs were *T. cruzi* negative by direct examination of feces. We captured 34 small mammals, two species of marsupials and four rodents, of which 3 (8.8%) were *T. cruzi* positive. The most prevalent species was *Akodon cursor* (24 animals), one *T. cruzi* positive through blood cultures, identified as genotype I (Tcl). One *Rattus rattus* and one opossum (*Didelphis aurita*) were positive by IIFA. The two positive rodents were captured in the peridomestic of the house where the mother and daughter were diagnosed with CD. **Main conclusions:** The findings suggest a CD transmission cycle in Guarani, where the home invasion of native triatomines, as well as the handling and consumption of under-cooked game meat from infected wild animal reservoirs may be factors justifying the autochthonous cases identified. **E-mail:** lhcsangenis@gmail.com

Fundação Oswaldo Cruz – Rio de Janeiro - Brazil

## Chagas disease in Guarani, a rural village within São Sebastião do Alto municipality in the state of Rio de Janeiro, Brazil: An eco-epidemiological and serological survey

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### Introducion

Rio de Janeiro (RJ) state has never been considered a Chagas disease (CD) endemic area. However, some out clinic patients treated in the Clinical Research Institute Evandro Chagas, Oswaldo Cruz Foundation, were born and raised in rural areas of the hilly region of northern Rio de Janeiro state. None of them had received either blood transfusion or organ transplantation, and their mothers were native of the same region. In 2009, we received a 15 year-old girl from São Sebastião do Alto municipality, refused by the bone marrow bank, as she was detected CD positive through serology. The patient's mother was also diagnosed CD positive. In 2010, we conducted a field study involving an epidemiological and serological survey in Guarani, a rural area within São Sebastião do Alto, also a hilly region of Rio de Janeiro state.



Guarani landscape with a simple house of mud

### Results

The age of volunteers ranged from 2 to 88 years old. Of the 234 blood samples, only two proved serologically *T. cruzi* positive (ELISA and IIFA), both from the two patients (mother and daughter) already identified with the disease (prevalence 0.85%). Sixty-five residents (27.7%) reported some knowledge concerning the bugs. The consumption of game meat (opossum, armadillo, brazilian guinea pig, paca) was reported by 65% of the inhabitants and fresh sugar cane juice by 77%. Seven triatomines, all adult *Triatoma vitticeps*, were captured in five houses, three in the positive patients' domicile. All bugs were *T. cruzi* negative by direct examination of feces. We captured 34 small mammals, two species of marsupials and four rodents, of which 3 (8.8%) were *T. cruzi* positive. The most prevalent species was *Akodon cursor* (24 animals), one *T. cruzi* positive through blood cultures, identified as genotype I (Tcl). One *Rattus rattus* and one opossum (*Didelphis aurita*) were positive by IIFA. The two positive rodents were captured in the peridomicile of the house where the mother and daughter were diagnosed with CD.



São Sebastião do Alto: municipality of the hilly region of the Rio de Janeiro

### Materials and Methods

We visited 106 domiciles in Guarani, collecting 234 human blood samples on filter paper for serology by ELISA and IIFA methods and afterwards applying a questionnaire for epidemiological investigation. Traps were set at various sites in the village for small mammal collection in hopes of disclosing potential *Trypanosoma cruzi* reservoirs. Infection diagnostics were confirmed by both IIFA and hemoculture. Fifty percent of the houses were investigated, searching for triatomines in both intra and peridomestic environments. Parasites isolated from reservoirs were characterized by multiplex PCR of the mini-exon gene.



*Triatoma vitticeps* captured in a house of Guarani



*Akodon cursor*

### Main conclusions

The findings suggest a CD transmission cycle in Guarani, where the home invasion of native triatomines, as well as the handling and consumption of under-cooked game meat from infected wild animal reservoirs may be factors justifying the autochthonous cases identified.