# XVIII International Congress for Tropical Medicine and Malaria

and

# 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

This is to certify that

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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:** Follow-up of patients in the indeterminate form of Chagas disease and progression to heart disease

Rio de Janeiro, September 27, 2012.

Professor Pierre Ambroise-Thomas
President of the IFTM

Professor José Rodrigues Coura
President of the XVIII ICTMM

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

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## Chagas036- IgG subclasses response against GPI associated proteins in Cardiopathy and asymptomatic Chagasic subjects

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The humoral immune response such as IgG antibodies are detected generally after a month post infection. Diagnosis of *Trypanosoma cruzi* infection after the acute phase is fundamentally done in serological means. It is known that 70-80 % of infected subject do not develop symptoms whereas the rest progress to cardiopathy. The objective of this work was to describe the IgG response against to epimastigote superficial antigens in cardiopathy (CCC) and asypthomartic (Asy) infected subjects. We studied 60 chagasic samples (30 asymptomatic and 30 with cardiopathy). The detection of seric IgG was done by ELISA (crude antigen) and IIF (epimastigotes). To obtain GPI- anchored proteins we used TX-114 2% protocol and verified by SDS-PAGE and WB. There were obtained S2, S3 and GPI fractions to be used in ELISA. The total IgG response against the three fractions was similar in both groups (CCC and Asy) with no statistical differences. However, the level of IgG1 against S2 and S3 fractions was higher in Asy than CCC group (p<0.05), but IgG4 against S2 fraction was negative in the majority of Asy group (p<0.05).The Avidity of IgG response against the three fraction in the presence of Urea in both groups showed no differences between CCC and Asy subjects. Conclusion: The used of parasites superficial antigens coupled to IgG1 and IgG4 subclasses may differentiate between CCC and Asy subjects. **E-mail:** victormonteon@yahoo.com.mx

## Chagas037- Follow-up of patients in the indeterminate form of Chagas disease and progression to heart disease

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**Introduction**: Recent epidemiological changes promoted urbanization and increasing age of patients with Chagas disease. The rate of progression to chronic chagasic cardiomyopathy in these patients is not known. The aim of this study was determine rate of progression to chronic chagasic cardiomyopathy in Chagas disease patients without apparent cardiopathy. **Material and Methods**: a prospective observational follow-up study, comprising 581 patients with Chagas disease, without apparent cardiopathy, was followed from march/1990 to December/2005. All patients underwent clinical examination, ECG, chest radiography and echocardiography (ECHO) at admission (baseline) and followed-up with annual ECG and ECHO where indicated. The ECG analysis and definition of chronic chagasic cardiomyopathy were performed as recommended by Brazilian consensus Chagas disease (2005). Statistical analysis estimated incidence-density progression. In the comparison between progressors and nonprogressors were used chi-square tests, Fisher exact test, Student, t test and Mann-Whitney as indicated. Kaplan-Meier curves were constructed and compared by log-rank test. **Results**: The cohort average age was 44 ± 11 years, and 49% were male. After a mean follow up of 61 ± 42 months,16 cases of progression at ECG were observed, resulting in cumulative incidence of 2.75% and an incidence-density of 0.55 x 100 patients-year. Patients with progression outcome had a higher follow-up time median (mean) (106 ± 39 vs 61 ± 42 months, p<0.0001). There were no differences between progressors and non-progressors when compared to age, sex, presence of diabetes and use of benzonidazole. Progression was more frequent in hypertensive patients (4.7% vs 2%), approaching statistical significance (p = 0.065). ECHO was performed in 15 progressors, showing development of contractile dysfunction in 1 patient, preceded by electrocardiographic progression. **Main Conclusions**: In this urban cohort of patients with Chagas disease, without apparent cardiopathy, the rate of progression to chronic chagasic cardiomyopathy was low and less than previous studies conducted in rural and endemic areas. However, as compared to studies in urban and off-endemic area, our results are similar. The absence of re-exposure to the disease could explain this lower incidence of progression. **E-mail:** alejandro.hasslocher@ipec.fiocruz.br

# Follow-up of patients in the indeterminate form of Chagas disease and progression to heart disease.

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## INTRODUCTION

Recent epidemiological changes promoted urbanization and increasing age of patients with Chagas disease. The rate of progression to chronic chagasic cardiomyopathy in these patients is not known. The aim of this study was determine rate of progression to chronic chagasic cardiomyopathy in Chagas disease patients without apparent cardiopathy (indeterminate form).

## MATERIAL and METHODS

A prospective observational follow-up study, comprising 581 patients with Chagas disease, without apparent cardiopathy, was followed from march/1990 to dezember/2005. All patients underwent clinical examination, ECG, chest radiography and echocardiography (ECHO) at admission (baseline) and followed-up with annual ECG and ECHO where indicated. The ECG analysis and definition of chronic chagasic cardiomyopathy were performed as recommended by brazilian consensus Chagas disease (2005). Statistical analysis estimated incidence-density progression. In the comparison between progressors and nonprogressors were used chi-square tests, Fisher exact test,Student, t test and Mann-Whitney as indicated. Kaplan-Meier curves were constructed and compared by log-rank test.

## RESULTS

The cohort average age was 44 ± 11 years, and 49% were male. After a mean follow up of 61 ± 42 months,16 cases of progression at ECG were observed, resulting in cumulative incidence of 2.75% and an incidence-density of 0.55 x 100 patients-year. Patients with progression outcome had a higher follow-up time median (mean) (106 ± 39 vs 61 ± 42 months, $p<0.0001$). There were no differences between progressors and non-progressors when compared to age, sex, presence of diabetes and use of benznidazole. Progression was more frequent in hypertensive patients (4.7% vs 2%), approaching statistical significance ($p = 0.065$). ECHO was performed in 15 progressors, showing development of contractile dysfunction in 1 patient, preceded by electrocardiographic progression.

*Curve progression-free survival*
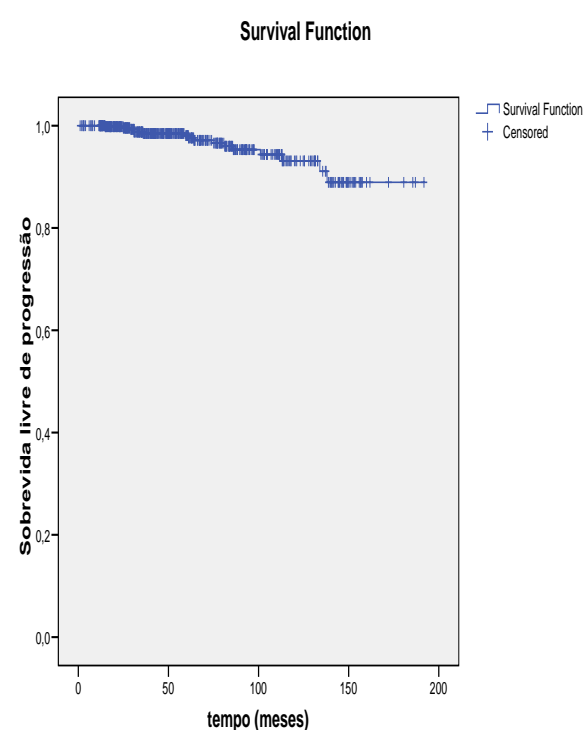


*Curve progression-free survival stratified according to the presence or absence of hypertension*
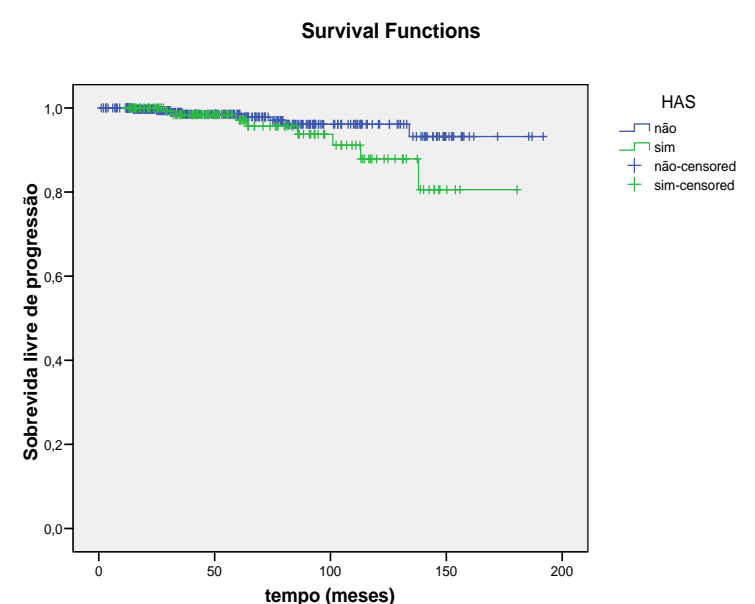


| Variable | Cohort (n= 581) | Non-progressors (n= 555) | Progressors (n=16) | Valor p |
|---|---|---|---|---|
| Male | 49% | 49% | 50% | NS |
| Age | 44±11 | 44±11 | 44±10 | NS |
| Diabetes M. | 4% | 4% | 6% | NS |
| Hypertension | 31% | 31% | 50% | NS |
| Benznidazol | 16% | 15% | 25% | NS |

*Table : General characteristics of patients*

## CONCLUSIONS

In this urban cohort of patients with Chagas disease, without apparent cardiopathy, the rate of progression to chronic chagasic cardiomyopathy was low and less than previous studies conducted in rural and endemic areas. However, as compared to studies in urban and off-endemic area, our results are similar. The absence of re-exposure to the disease could explain this lower incidence of progression.