FOREWORDS

The 26th Annual Meeting on Basic Research on Chagas Disease and the 16th Meeting of Brazilian Society of Protozoology remain as a standard for the quality of science in Brazil.

This issue of the *Memórias do Instituto Oswaldo Cruz* contains more than 500 abstracts presented to these meetings, which highlight many of the major advances that have been achieved in Protozoology research in the last few years, including Biology, Ultrastructure, and Biochemistry of *Trypanosoma*, *Leishmania, Plasmodium*, *Entamoeba*, *Toxoplasma* and monoxenic trypanosomatids. In addition, contributions also cover immunology of Chagas disease, leishmaniasis, malaria and toxoplasmosis as well as different aspects of treatment (chemotherapy) and transmission (vector biology and interactions) of these diseases.

We wish to express our acknowledgements to all colleagues that have contributed to this meeting and in particular to the 71 scientists who accepted to present their data in conferences and round tables. We wish to thank Angela K. Cruz, Alvaro Romanha, Fernando C. Silva Filho, George dos Reis, Hatisaburo Masuda, Jorge Kalil, José R. Coura, Norton Heise, Renato Mortara, Sergio Coutinho, Sergio Schenkman, and Thais Souto-Padron for their suggestions and help in the organization of the symposia. We would also like to express our gratitude to Lucile F. Winter, Lúcia Maria da Cunha Galvão and Thais Souto-Padron for their help in the organization of this meeting. Joab S. Pinto, Orlando A. Agrellos, Safira Farache, Esmeralda Farache, Edna Aleixo dos Santos, Maureen Rodarte and Malka Jukiewcz are acknowledged for their help in the secretary.

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The Organizing Committee would like to welcome all participants and wish a profitable meeting in Caxambu.

Caxambu, 9-11 November 1999

Meeting Coordinators .

Lucia Mendonça Previato *Samuel Goldenberg*
Wanderley De Souza *Erney P. Camargo*
Rossiane Vommaro *Paulo Marcio Faria*

This year we commemorated the 90th anniversary of the discovery of Chagas disease (April 15, 1909), by organizing an International Symposium on the Advances in Knowledge about Chagas Disease, 90 years after its discovery. The symposium was held in Rio de Janeiro from 11 to 16 of April. Twelve plenary lectures, ten round-tables and 104 selected posters were presented and debated by more than 500 scientists from 15 different countries, covering the biology and ultrastructure, biochemistry and molecular biology, characterization of *Trypanosoma cruzi* and *T. cruzi*-vector-vertebrate host interaction, immunopathology, diagnosis, epidemiology, treatment and control of Chagas disease.

The summary of the posters presented at the symposium was published in a booklet distributed at the meeting. The plenary lectures, round-tables and debates appeared in a special issue of the Memórias do Instituto *Oswaldo Cruz* (Suppl. I, 1999). This journal also completed, last April, 90 years and published in 1909, in its first volume, the article "Nova Tripanozomiaze Humana (A New Human Trypanosomiasis)" by Carlos Chagas.

During the symposium the Oswaldo Cruz Foundation awarded Carlos Chagas Filho with the Oswaldo Cruz prize, a gold medal and a diploma, for a life entirely dedicated to Brazilian Biomedical Science. Nine selected papers from the poster presentation were rewarded with the Carlos Chagas prize, dedicated to young promising scientists and their supervisors. A highlight of the meeting was the conference by Marilia Coutinho at the National Academy of Medicine, in April 15 on "The Noble Enigma: Chagas Nominations for the Nobel Prize", which he never received.

The first symposium of this XXVI Annual Meeting on Basic Research entitled "90 years of Chagas disease" is also a tribute to the 90th anniversary of the discovery of Chagas disease. These "Caxambu meetings", have been, for the last 26 years, the most important events throughout the world, not only for advances in knowledge of this disease, but mainly for the maintenance of the "research flame" among young researchers and for the international interchange with different people from many countries. The meetings and Chagas disease research itself have been an ideal model for other meetings and researches in protozoan and several other parasitic diseases.

The organization of this XXVI meeting clearly demonstrates the maturity of the coordinators and the quality of the structure and advice of the ghost committee. The opening conference "Parasitology-Today/Parasitology-Tomorrow" by Luiz Hildebrando Pereira da Silva, is to be a highlight for the meeting, which is organized with 12 symposia and 25 conferences involving more than 100 top foreign and Brazilian scientists. As in the past years more than 500 posters are also expected. The Samuel Pessoa (1999) award, which will be presented by Prof. Isaac Roitman and given to Prof. Luiz Rodolpho Travassos, is the highlight of the meeting.

José Rodrigues Coura
Director of the Oswaldo Cruz Institute

XXVI Annual Meeting on Basic Research in Chagas' Disease
XV Annual Meeting of Brazilian Society of Protozoology
Hotel Glória,Caxambu, MG, Brasil

09 - 11 November de 1999

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Tuesday, November 9, 1999	
12 h - 15 h	REGISTRATION ROOM Registration **Poster Displaying**
16 h	ROOM A Opening Conference *Luiz Hildebrando Pereira da Silva* Centro de Pesquisa em Medicina Tropical, Porto Velho, RO **Parasitology Yesterday, To-day and Tomorrow**
17h-19h	ROOM A **Symposium 1: 90 years of Chagas' disease** Chaired: *JR. Coura* Fundação Oswaldo Cruz, Rio de Janeiro *Eloi Garcia* Fundação Oswaldo Cruz, Rio de Janeiro **Chagas' disease: 90 years of studies on parasite-host interaction** *João Carlos Pinto Dias* Centro de Pesquisas René Rachou, Belo Horizonte **Chagas' disease control** *W Colli* Instituto de Química, USP, São Paulo **The past, the present and the future of biochemical research on *Trypanosoma cruzi*** *JR Coura* Fundação Oswaldo Cruz, Rio de Janeiro **Morbidity and regional variation in Chagas'disease in Brasil**
19h30-21h	DINNER
21 h-21h45	ROOM A **Symposium 2: Biosafety** Chaired: *Michel Rabinovitch* Escola Paulista de Medicina, UNIFESP *Marcelo Simão Ferreira* Centro de Ciências Biomédicas, Universidade Federal de Uberlândia, MG & *M Rabinovitch* Escola Paulista Medicina, UNIFESP **Risk of infection , control policies, and treatment of accidental Chagas' disease**
22 h	POSTER PRESENTATION

QM-5 – FOLLOW-UP OF CHAGAS DISEASE TREATMENT WITH BENZNIDAZOLE BY SEROLOGY

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Treatment of non-acute Chagas disease is still controversial. The difficulty to demonstrate the parasite, associated with the lack of a gold standard laboratory method and/or a clinical parameter which would assure the presence or absence of the parasite, have hampered the evaluation of the efficacy of therapeutical agents, not forgetting the need of a very long-term follow-up. One option to evaluate the efficacy of cure in many infectious diseases is the search of serum specific antibodies, which tend to decrease or disappear after cure. This approach has been tried out in chagasic patients with conflicting results. The purpose of this work was to evaluate the serological evolution of chagasic patients after treatment with 200 mg/kg/day for 60 days with benznidazole. A total of 48 patients (27 indeterminate and 21 with cardiac chagasic dysfunctions, 66% and 52% with 6 to 12 years of follow-up, respectively) were examined before and after treatment (average 6.9 ± 3 years). The presence of specific antibodies were searched through an ELISA test, using total epimastigote *T. cruzi* antigen, Y strain. All sera were tested in parallel, using the same batch of antigen and buffers. Sera was serially diluted starting 1:40, and patients were divided in three subgroups according to the levels of antibody titers: negative, low (1:40 to 1:160) and high (≥1:320). The majority of the patients presented higher titers before therapy: 78% of those with indeterminate form and 71% of the cardiac patients. Only 18% of the total patients showed a decrease to low levels of antibodies, mainly within the indeterminate group (33% versus 9,5% of the cardiac group, $p < 0.0001$). None of the sera were negative after therapy, and three of them (6.2%) showed titers of 1:40. The levels were maintained high in 67% of the indeterminate group and 87% of the cardiac patients. In the latter, only 13% decreased to low levels. These results demonstrate that none of the patients fulfilled the criteria of complete parasitological cure. Alternatively, if the therapy was efficacious, serology is not indicated to follow-up the success of therapy for *T. cruzi* infection.

Supported by PAPES/Fiocruz.

QM-6 – IMPACT OF THE GENETIC DIVERSITY OF *TRYPANOSOMA CRUZI* ON ITS SUSCEPTIBILITY TO BENZNIDAZOLE *IN VIVO*

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Fifteen stocks pertained to the 19/20 (8 stocks) , 39 (3 stocks) and 32 (4 stocks) *T. cruzi* distinct genetic groups (Tibayrenc and Ayala, 1988) were assayed. Groups of 20 Balb/c mice were inoculated with 10^4 blood trypomastigotes of each stock. Ten of these mice were treated with Benznidazole 100mg/kg/day during 20 consecutive days as follow: 5 mice 10 days after inoculation (acute phase - AP) and 5 mice 90 days after inoculation (chronic phase - CP). The other 10 mice were maintained as control not treated. All mice were examined 30 days after treatment to verify the presence of the parasite by hemoculture and polimerase chain reaction (PCR). Sera were also collected 3 and 6 months later to ELISA and Flow Citometry (FACScan) to detect anti-live trypomastigotes antibodies (ALTA). Percentages of negative tests are showed as follow:

Genetic group →		19/20		39		32	
	Phase of	Percentage of negative tests					
Test	infection	Treated	Not treated	Treated	Not treated	Treated	Not treated
Hemoculture	AP	26,92	7,30	33,33	16,66	73,68	11,11
	CP	40,00	11,11	73,33	70,00	86,66	0,00
ELISA	AP	13,16	0,00	18,19	0.00	89,48	35,71
	CP	4,00	0,00	16,67	0,00	39,00	10,00
FACScan(ALTA)	AP	16,00	0,00	23,08	0,00	88,89	20,00
	CP	4,55	0,00	16,67	0,00	55,55	10,00
% of cure	AP	25,00	-	14,28	-	70,59	-
	CP	13,33	-	30,77	-	86,67	-

AP = Acute phase; CP = Chronic phase

The percentages of negative hemoculture, ELISA and FACScan (ALTA) tests founded in the AP were higher in mice infected with *T.cruzi* 32 genotype group and significantly different from those infected with 39 and 19/20 genotypes (32 > and # 39 >19/20). Similar results were observed in the CP (32 > 39 > 19/20) but in this case 32 # 39 # 19/20 except for hemoculture coincidently considered a poor method to detect parasites during the CP. Considering the 3 tests used the percentage of cure observed after AP treatment was 32 > and # 19/20 > 39). However in mice treated during the CP the rates of cure were 32 > and # 39 > and # 19/20. Preliminary results of PCR confirmed the other tests.

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