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 **CARDIAC FUNCTION AND HEART FAILURE****PROTEINS SECRETED BY THE TRYPANOSOMA CRUZI ARE RELATED TO ARRHYTHMOGENESIS IN CHAGAS DISEASE**

ACC Poster Contributions

Ernest N. Morial Convention Center, Hall F

Monday, April 04, 2011, 9:30 a.m.-10:45 a.m.

Session Title: Cardiomyopathies/Myocarditis/Pericardial Disease

Abstract Category: 22. Cardiomyopathies/Myocarditis/Pericardial Disease

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Background: Chagas' disease, one of the major causes of sudden death, is produced by the *Trypanosoma cruzi* (*T. cruzi*). Proteins produced by the parasite have been related with virulence but not with arrhythmogenic effect. Our objective was to evaluate the impact of proteins produced by the *T. cruzi* under stress condition on the arrhythmias genesis

Methods: : Hearts from 4-6 weeks old Sprague Dawley rats were perfused in a whole heart Langendorff's preparation. Hypoxic recirculation system was used (3 cycles 5 minutes each one). Two groups were evaluated: Group A (n=12) perfused with Vero- *T. cruzi* conditioned medium. Group B (n=9) perfuse with Vero conditioned medium. Continuous ECG were recorded. Antigenic recognition of proteins and cardiac enzymes analysis were performed on the effluent fluid. Comparison of proportions was used to analyze p value.

Results: 8/12 (67%) hearts perfused with *T. cruzi* presented some type of arrhythmia compared with 0/9 on the control group. In all Group A hearts, multiples protein band 60-220kDa were present on effluent fluid .These proteins presented antigenic reaction against chagasic human sera (trypomastigote excreted-secreted antigen (TESA)). No significant elevations of cardiac enzymes were observed.

Conclusions: In our model, TESA proteins with molecular weight 60-220 kDa were related with the genesis of arrhythmias. On the best of our knowledge this is the first time that TESA proteins are related with arrhythmogenic effect.

Arrhythmias summary				
Percentage of arrhythmias				
	Ventricular arrhythmias	Bradycardia	AV-IV conduction blocks	Any arrhythmic event
Group A	17% (2/12)	33% (4/12)	17% (2/12)	67% (8/12)
Group B	0% (0/9)	0% (0/9)	0% (0/9)	0% (0/9)
p value	0,1213	0,0914	0,1213	< 0,00001