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COMUNICAÇÃO

INFLAMMATORY RESPONSE AGAINST TRYPANOSOMA CRUZI PARASITISED CELLS FROM ADRENAL VEIN AND MYOCARDIUM IN CHRONIC CHAGAS' DISEASE

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We compared in Chagas' patients the relationship between leucocyte exudate and *Trypanosoma cruzi* nests in the central vein of the adrenal gland (CVAG) and nests in the myocardium. The inflammatory response to nests in the myocardium was more frequent and stronger than to the CVAG one. These results suggest that a peculiar environment in the CVAG would modify *T. cruzi* survival.

We have previously published a paper stressing the higher frequency of *T. cruzi* nests in the central vein of adrenal gland (CVAG) (50%) when compared to the left ventricular myocardium (LVM) (17%) in patients with chronic Chagas' disease[1]. Those results could be related to a milder inflammatory response against the parasite or its products in the CVAG. In this work, we compare the inflammatory response (focal leucocyte exudate-FLE) to amastigote nests occurrence in both CVAG and LVM.

We determined the topographic relationship between FLE and 45 nests of *T. cruzi* randomly selected in the CVAG of 18 patients and 23 nests detected in the LVM of 6 patients. The frequency of "adhering" leucocytes to parasitised cells surface was also estimated by analysis of a single histological section. This phenomenon was classified as mild in the presence of only one or two "adhering" leucocytes, moderate in the presence of three to five and marked in the presence of six or more. Moreover, we evaluated the frequency of leucocyte invasion in these infected cells in the CVAG and LVM. The results were compared statistically by the Chi-square test. The level of significance was set at 5%.

Tables 1 and 2 show a topographic comparison of amastigote nests with FLE in the CVAG or LVM and the occurrence of parasitised cells with "adhering" or penetrated leucocytes, respectively. FLE were found in 28.9% of CVAG cells surroundings and in 69.9% of parasitised myocardial cells (Figures 1 and 2). Three or more "adhering" leucocytes were observed in 8.8% of CVAG cells and in 47.8% of myocardial cells. Besides, leucocyte "invasion" was found in 34.8% of LVM nests. The results above were highly significant.

Table 1 - Focal leucocyte exudate associated with nests of a T. cruzi on the central vein wall of the adrenal gland and in the left ventricular myocardium in chronic patients.

	Nº of *T. cruzi* nests	Leucocyte infiltrate associated with nests			
		absent		present	
		nº	%	nº	%
Central vein of adrenal gland	45	32	71.1	13	28.9
myocardium	23	7	30.4	16	69.6

(χ^2 = 10.28; p < 0.005)

The inflammatory response to parasitised myocardial cells is more frequent and stronger than to cells from the CVAG. We intend to complement this finding with an electronic microscopic auxiliary study, according to Lopes and colleges[2]. These results suggest that a peculiar hormonal enviroment[1] might favor *T. cruzi* survival in the presence of antiparasite immunity. In accordance to recent published data[3], we propose that the CVAG may function as a parasite reservoir in patients with chronic Chagas' disease.

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Table 2 - Leucocytes "adhering" to T. cruzi *nests on the wall of the central vein of the adrenal gland and on the left ventricular myocardium of chronic chagasic patients.*

	Nº of nests	Quantify of "adhered" leucocytes								Total nests with adhered leucocytes		Nests with invading leucocytes	
		zero		1-2		3-5		above 6					
		nº	%	nº	%	nº	%	nº	%	nº	%	nº	%
Central vein of adrenal gland	45	22	48.9	19	42.2	2	4.4	2	4.4	23	51.1	0	
myocardium	23	5	21.7	7	30.4	5	21.7	6	26.1	18	78.3	8	34.8

"Adhered" leucocytes: $\chi^2 = 13.87$; $p<0.005$

Invaded nests: $\chi^2 = 17.7$; $p<0.005$.

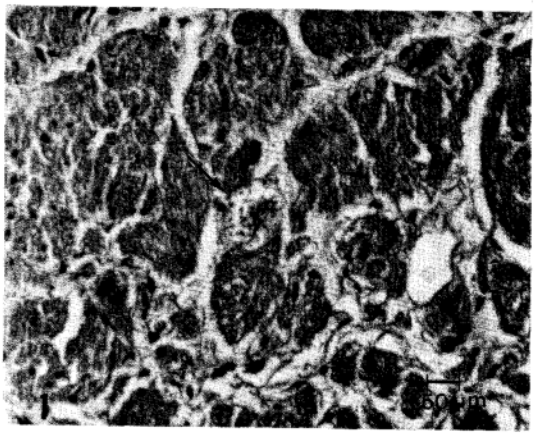

Figure 1 - Section of central vein of adrenal gland showing the presence of a T. cruzi *nest (arrow) as well as the absent of leucocyte infiltrate (Haematoxylin and eosin staining, X 80).*

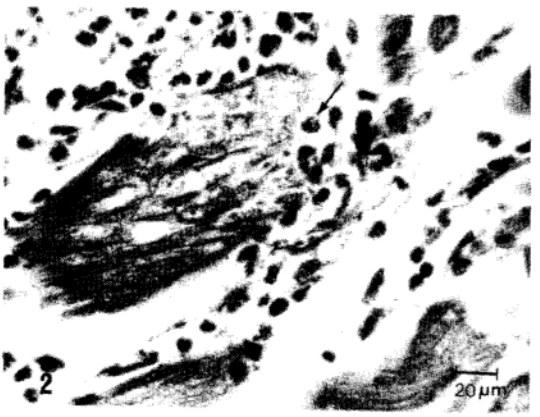

Figure 2 - Section of myocardium, showing "adhering" or penetrated leucocytes (arrow) in the infected myocardiocyte, to observe the presence of focal leucocyte exudate associated with T. cruzi *nest (Haematoxylin and eosin stainting, X 600).*

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