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. 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.

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. These results suggest that a peculiar hormonal environment might favor T. cruzi survival in the presence of antiparasite immunity. In accordance to recent published data, we propose that the CVAG may function as a parasite reservoir in patients with chronic Chagas’ disease.

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.

<table>
<thead>
<tr>
<th>Nests with</th>
<th>Nests with</th>
</tr>
</thead>
<tbody>
<tr>
<td>adhered leucocytes</td>
<td>invading leucocytes</td>
</tr>
<tr>
<td>zero</td>
<td>1-2</td>
</tr>
<tr>
<td>Nº</td>
<td>%</td>
</tr>
</tbody>
</table>

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

REFERENCES


