Reviewer's report

Title: Aortic Distensibility is Not Modified in Patients With Different Forms of Chagas' Disease

Version: 1 Date: 21 August 2005

Reviewer number: 2

Reviewer's report:

General

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

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These investigators measured pulse wave velocity in 4 different patients groups of patients with various stages of Chagas' disease. They found that both pulse wave velocity and pulse pressure were similar in the four different groups of patients. They did find a positive correlation between pulse wave velocity and age in patients with Chagas' disease. They conclude that aortic distensibility is normal in patients with Chagas' disease, suggesting that elastic properties of large arteries are not primarily affected in this disease.

Recommendations

1) A major problem with this manuscript is that the investigators did not, in fact, study aortic distensibility: they measured pulse wave velocity. However, PWV is not a direct measure of aortic distensibility, and other properties may be responsible for changes that may either may or may not be present. It would be much more accurate to simply state that they are measuring pulse wave velocity rather than aortic distensibility. Then, in the discussion section, they can discuss the relationships between the two, and offer as one explanation the possibility that there may not be differences in aortic distensibility.

2) There is no discussion of the power that was used arrive at the conclusion that were no differences. It obviously is important to rule out a Type II (beta) statistical error in a study such as this.

3) They make no mention of beta-blocker use in these patients. Were they used?

4) It is not accurate to say that there is no correlation just because the p-value is greater than 0.05 (see bottom of page 8). In this particular case, when the p-value is 0.074, this is close enough for statistical significance to likely represent a Type II statistical error.

5) The authors make no reference to the paper of Mitchell et al. (Pulsatile hemodynamics in congestive heart failure. Hypertension 38:1433-1439, 2001) which represents probably the most definitive work in this area in patients with heart failure, and helps to explain why previous studies have noted disparate findings in patients with heart failure.

6) There are multiple occurrences of spelling and grammatical errors too numerous to mention individually.

7) What is the significance of finding a positive relationship between PWV, age, and systolic pressure?

8) Since they are not primarily studying endothelial function, it is inaccurate to make the statement that these observations are similar to others showing that endothelial function was preserved in patients with Chagas' disease.
9) Page 8: how about pulse pressure?

**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, and I have assessed the statistics in my report.