Reviewer's report

Title: Relationship Between the Extent of Dissection and Platelet Activation in Acute Aortic Dissection

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Reviewer: Kenichi Sakakura

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Zhang et al. investigated the relationship between the extent of dissection and platelet activation in acute aortic dissection. Since acute aortic dissection is closely related to systemic and local inflammation, it would be important to study the above relationship. I have the following comments to be addressed.

Major Compulsory Revisions

1. Authors compared each variable between Group 1 (Stanford A, n=59) and Group 2 (Stanford B, n=88). I do not think it is appropriate to compare inflammatory parameters between Stanford A and Stanford B, because the management of Stanford A aortic dissection is totally different from Stanford B aortic dissection. Although authors did not describe how they managed each aortic dissection, an emergent surgery should be applied to Stanford A aortic dissection, whereas medical therapy should be applied to uncomplicated Stanford B aortic dissection. An emergent surgery would significantly affect the inflammatory parameters as well as platelet activation.

2. In statistical analysis, authors used Student's t-test, Welch's t-test or the Mann-Whitney U-test, or chi-square tests. Correlations were analyzed by Pearson's correlation coefficient. Since those tests cannot adjust confounding factors, it is better to have multivariate analysis to adjust confounding factors.

3. Did authors test the normality of distribution? Statistical methods should be selected from the results of those tests. For example, Pearson's correlation coefficient is not allowed for non-normally distributed variables.

4. Detail methods of acquiring serum CRP, WBC count and neutrophil percent, and platelet variables should be described. When did authors acquire those data? Because those variables fluctuate day by day during acute phase of acute aortic dissection. For example, serum CRP levels reach its peak around 4.5±1.7 in acute type B aortic dissection (Hypertension 2010; 55; 422-429). Also, initial CRP levels are reported to be less than one fourth of peak CRP levels (Hypertension 2010; 55; 422-429). It is unclear whether authors used initial values or peak values for each inflammatory marker.

Level of interest: An article of limited interest
Quality of written English: Acceptable

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

Declaration of competing interests:

No COI