Reviewer's report

Title: Outcome of open and endovascular repair in acute type B aortic dissection

Version: 1  Date: 20 January 2010

Reviewer: Jean Bachet

Reviewer's report:

The manuscript entitled « Outcome of open and endovascular repair in acute type B aortic dissection » by Mastroroberto et al. reports on the authors’ experience in dealing with complicated type B dissections with two different methods (open surgery and TEVAR) over a period of 8 years.

This article is interesting and brings some contributory information about the early and late outcomes of the patients. It might be considered for publication. However there are many points of criticism which need to be addressed and/or corrected.

1/ From a general standpoint the design of the paper can be questioned. Despite the last paragraph of the authors’ conclusion, stating that the paper is not intended to prove the superiority of TEVAR on Open Surgery (OS) the manuscript appears indeed as a comparative study. This comparison is highly disputable:

The study is retrospective and observational;

The patents were not randomized;

The two different techniques were applied during two different periods of time on a theoretical decision and regardless of the patients’ condition.

The cohorts in both groups were very limited and, thus, the statistical significance is rather low.

Some differences in the outcome were probably not related to the method used for treatment. For instance, in the OS group, one patient died from MI and one patient died from bowel malperfusion and necrosis. This was most likely due to the condition of the patient or to the dissecting process. The patient s would have probably died whatever technique had been used.

Therefore the comparative organization of the manuscript seems to be inappropriate.

It seems to the reviewer that the paper could be improved by first describing the TEVAR technique and its results and by then reporting briefly the results obtained with OS in a previous period of time emphasizing in the discussion the points in which the authors think that TEVAR was bringing some improvement.
2/ More specifically, several points could be altered.

In the abstract it is said that the treated patients were “eligible” for OS or TEVAR. Those patient rather “had to undergo” those procedures because of their complicated dissection.

In the introduction, the first phrase is questionable. The treatment of type B dissection is not a “formidable challenge”. Most of the patients can be properly treated medically with an early mortality rate of less the 10%. The treatment is a challenge only in “complicated” cases.

In the Methods section, it is not quite useful to define early mortality, paraplegia and paraparesis, renal and respiratory failures as those features are internationally accepted and known.

How can a “caroti-carotid bypass” improve the vascularization of a compromised left sub-clavian artery?

The results section and the Comments (Discussion) should be separated

In the results sections, the authors should make clear that the late survival rates do not include the early mortality. By the way, the reviewer considers that this early mortality should be included in the overall survival rate. Otherwise it is quite incomprehensible that OS has an 8 years survival rate of 57% when only 3 patients out of 11 (27%) are still alive.

In this regard, Kaplan Meier curves have been elaborated for very large numbers (for risk assessment by Insurance companies). The use of Kaplan Meier curves for small cohorts as the ones reported in the present study is irrelevant. The actual figures are more realistic.

References 7 and 15 are identical. One should be suppressed.

In reference 22 “type an aortic dissection” should be replaced be “type A aortic dissection”.

In table 1, how can the proportions of females be significantly different, if the proportions of male are not, considering that males + females in each cohort are automatically 100%?

Finally, the paper should be carefully edited for English, as several typing errors and flaws are present in the text.

In conclusion, this experience seems worth to be reported, because reports about the treatment of complicated type B dissections are rare and because it seems to bring some more information about the present usefulness of endovascular treatment of those very difficult patients. Nevertheless, in the reviewer’s opinion, an important rework should be carried out in order to improve the quality of the manuscript and to enhance its message to the surgical community.