Reviewer’s report

Title: Deep sternal wound infection after cardiac surgery

Version: 1 Date: 18 March 2013

Reviewer: Yukihiro KANEKO

Reviewer’s report:

This article, written by Kubota and associates, describes the incidence of deep sterna wound infection (DSWI) in Japan. The reviewer finds several serious flaws in this paper. Due to the lack of important information, the reviewer believes that the current version of this paper conveys little clinical implication to the readers.

Major compulsory revisions:

1. Several risk factors for the development of DSWI have been known from the previous literature. Patient-related risk factors include diabetes, obesity, chronic obstructive pulmonary disease, osteoporosis, tobacco use. Surgery-related risk factors include duration of surgery, duration of cardiopulmonary bypass, use of intraaortic balloon pump, use of bilateral internal thoracic arteries, re-exploration for bleeding, shaving with razors, improper use of antibiotics, and use of bone wax. These risk factors strongly influence the incidence and outcome of DSWI. In the present manuscript reports the influence of re-exploration for bleeding on the outcome of the patients with DSWI. The incidence of re-exploration for bleeding is not reported. The incidences of other risk factors and their influences on the outcome should be reported.

2. In this paper, the interval from the operation to death is reported to be between 41.5 and 95.7 days, indicating that majority of the patients died more than 30 days after surgery. The 30-day mortality is inappropriate for exclusive outcome index. The in-hospital mortality must be reported.

3. Pathogen strongly influences the outcome of and appropriate treatment for DSWI. Pathogen must be reported.

4. The authors conclude that appropriate prevention may improve the outcome of cardiac surgery. However, they did not report the preventive measures against DSWI in the patient cohort. The preventive measures against DSWI including the type and duration of perioperative antibiotics, technique of body hair removal, use of surgical safety check list must be reported.

5. The authors conclude that establishment of effective appropriate treatment for DSWI may improve the outcome of cardiac surgery. However, they did not report the treatment against DSWI in the patient cohort. The treatment modalities in the patient cohort must be reported.

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

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I have no financial conflict of interest.
Drs. Kubota, Ono, Takamoto and Kyo are my acquaintances. I worked with them for several years previously. Nonetheless, I feel that this fact does not influence my review opinion.