Reviewer’s report

Title: Perioperative management of antiplatelet therapy in patients undergoing non-cardiac surgery following coronary stent placement: A systematic review

Version: 0 Date: 01 Sep 2017

Reviewer: Michael Desborough

Reviewer’s report:

Summary

This systematic review of non-randomised trials has evaluated whether antiplatelet drugs should be stopped or continued peri-operatively for non-cardiac surgery. The authors identified no RCTs and 13 observational studies. Overall they conclude that the quality of the evidence is low and that there are unlikely to be significant differences in bleeding and MACE outcomes regardless of strategy.

Major points

I consider this an important review to perform and I commend the authors for reviewing non-randomised trials when their initial search yielded no RCTs. There are clear challenges in presenting the results of a systematic review where the included studies are so heterogeneous. Although firm conclusions can't be drawn, I consider this formal confirmation of the lack of data to be an important finding in itself. However I think there are a number of important methodological points that must be addressed.

I'm concerned about the appropriateness of the included studies. This review includes several studies without a control group. I think this is a major limitation and would need to be addressed to ensure that the final results are accurate. Ideally, the authors will exclude uncontrolled studies, cross-sectional studies and case control studies.

I think that the authors should be more specific about their inclusion/exclusion criteria and the comparisons that are being made e.g. trials were included if they compared stopping antiplatelet drugs to continuing one or more drugs; and/or trials were included if they compared bridging to no bridging. Was there any restriction on the type of surgery e.g. could both major vascular surgery and skin biopsies be considered?

I found the tables and figures difficult to interpret. In tables 2 and 3 I find it difficult to understand what has been compared. If space is a problem, I don't think it is necessary to include the last two columns, because these can be summarised in the figures. Could the "stent" and "time since stent" boxes be combined to make it more readable?
Figures - I think the results should be presented in forest plots with an appropriate summary statistic e.g. odds ratios and 95% confidence interval. I can't see comparisons within these figures and I think that stopping antiplatelet drugs should be compared to continuing them (or standard of care versus other strategies).

Minor points

Please explain role of bridging in the background to make it clear how this fits with your questions about stopping/starting.

Search strategy 20 months old at time of review and would benefit from an update.

Devereaux et al. N Engl J Med 2014;370(16):1494-503 included a subgroup of 470 participants who would have been eligible for this review. While it is not essential these patients are included in this review, it significantly weakens it. Please would the authors justify why the original authors of trials such as the one above were not contacted for randomised subgroup data. It is likely that this will be the highest quality data available.

The authors conclude: "perioperative APT management likely has a small impact on MACE and bleeding events relative to other clinical factors". I think this conclusion is too strong. I don't think there is enough evidence to assess this one way or the other.

Page 6: please expand on the definition of significant bleeding (this can be added to an appendix if necessary)

Page 6: numbers in "description of studies identified by the literature search" don't match the PRISMA flow diagram - please amend

Pre-perioperative is often used - I assume the authors mean pre-operative?

Please would the authors provide an overall assessment of the quality of the data. I suspect it is of very low quality, which will mean that the results should be considered to be very uncertain.

**Level of interest**

Please indicate how interesting you found the manuscript:

An article of importance in its field that should be highlighted to relevant networks

**Quality of written English**

Please indicate the quality of language in the manuscript:

Acceptable

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