

Response to the letter to editor: Re-exploration after off pump coronary artery bypass grafting: incidence, risk factors and impact of timing: Utility of haemostasis checklist

Running Title: Re-exploration after OPCABG: Utility of checklist

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Abstract:

Surgical checklists such as 'World Health Organization (WHO) Surgical Safety Checklist' are made to make surgery safer, simple and to reduce human errors. Similar to this concept, Ali M et al and others have implemented the 'haemostasis checklist' and it had shown reduction in incidence of re-exploration in patients who underwent surgery using cardiopulmonary bypass (CPB). However, there is still scarcity of literature about the effect of these checklists on re-exploration after off-pump coronary artery bypass grafting (OPCABG).

We greatly appreciate the interest and comments provided by Ali M¹ et al for our article on re-exploration after off-pump coronary artery bypass grafting (CABG). Surgical checklists such as 'World Health Organization (WHO) Surgical Safety Checklist' are made to make surgery safer, simple and to reduce human errors. Similar to this concept, Ali M et al and others have implemented the 'haemostasis checklist' and it had shown reduction in incidence of re-exploration^{1,2} in patients who underwent surgery using cardiopulmonary bypass (CPB). However, their reported incidence after checklist is somewhat same as reported by us (1.9 vs 2.2%). Thus, impact of checklist on patients undergoing off-pump CABG, where CPB and its deleterious effect on body homeostasis is absent, may not be as high.

Complications after cardiac surgery may be decrease if errors occurred by 'technical factors' can be obviated by any means. For an experience surgeon, chest closure may not leads to 'cognitive errors' as its steps are embedded in them as 'unconscious habits'. The same cannot apply to the residents or trainees in whom it might lead to stress and cognitive fatigue³ causing suboptimal performance, missing out of important steps and improper decision making; all of these contribute to increase risk of complications like bleeding. Thus, implementation of haemostasis checklist might provide them a 'stress-free standardized environment' which can decrease technical errors. Thus, benefits of these checklists may be influence by 'experience' of surgeon/trainees which was not looked upon.

We also experienced significantly high rate of re-exploration after under-correction of heparin with protamine (coronary endarterectomy). So optimization of coagulation factors might not be possible in each and every patient and before implementing checklist to every center, we might have to seek an option for these kind of patients.

In the end, we agreed that strategy of 'Haemostasis checklist' leads to decrease incidence of re-exploration after on-pump cardiac surgery but further multicenter studies with more focus on factors like years of experience of surgeon, obviating 'Hawthorne effect', effects of suboptimal coagulation status etc. may be needed before recommending this checklist to all centers performing off-pump CABG.

References:

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