

National survey on autologous priming of cardiopulmonary bypass circuit

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Haemodilution resulting from crystalloid priming of the cardiopulmonary bypass circuit poses a major risk factor for blood transfusion in cardiac operations [2, 3]. Autologous priming (antegrade or retrograde) of CPB has shown to reduce the transfusion rate and some positive effect on cerebral oxygenation and post-operative renal function [1,2,3]. As there are no existing national or local guidelines regarding autologous priming, we decided to do a national survey via ACTA, to find views of cardiothoracic anaesthetists about this procedure in different cardiothoracic units in the UK.

Methods

Through the use of SurveyMonkey® a link to our autologous priming of CPB questionnaire was distributed to all members on the Association of Cardiothoracic Anaesthetists mailing list. As there was no direct involvement with patients, Ethical committee approval was deemed not needed. The questionnaire comprised of 14 multiple choice questions with extra space provided for comments for each answer.

Results

We received 103 responses to the questionnaire. 90% (n=92) of respondents were aware of this technique. However, it is practiced only in 55% (n=56) of the respondent's institutes. 56% (n=32) of them agreed that autologous priming has been practiced at their institute for more than 3 years. Surprisingly, only 31% (n=17) of the respondents agreed that this procedure had been undertaken for more than 75% of their patients. Nearly 72% (n=40) of the respondents agreed that this technique has been used for all cardiac surgery and patient inclusion criteria include pre-op Hb., Hct., & BSA. Nearly 75% of total respondents (n=77) believe that this technique decreases the chances of the requirement of RBC transfusion, however, only 48% (n=49) agreed that clotting products requirements also decrease.

There were mixed responses and views regarding improvement in intra-op cerebral oxygenation and post-operative improvement in renal function. 86% of total respondents agreed that there is no local policy for this technique. 60% agreed that this does cause slight drop in BP at initiation which respond to vasoconstrictors.

Discussion

There's no national consensus on autologous prime displacement. Although various units are undertaking this technique, there are no formal local guidelines or professional bodies like ACTA guidelines on this subject. This technique has shown to reduce the chances of RBC & clotting factor transfusion and can also save millions for the trusts [1, 2, 3]. However, further research and prospective randomised multicentre trial is needed to provide more robust evidence of benefits of autologous priming of cardiopulmonary bypass circuit.

References

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