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LETTER TO THE EDITOR

The optimal z-score for transannular patch

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Congratulations to the authors for this valuable study [1]. We wish to emphasise some issues. In this study, the authors did not attempt to resect the partial extension of the septomarginal trabecula. Why is that so? Ventricular hypertrophy due to jet flow through the ventricular septal defect (VSD) and the development of secondary infundibular stenosis are significant processes occurring in tetralogy of Fallot. The ventricular wall thickens into the ventricular cavity in ventricular hypertrophy. Ventricular hypertrophy regresses after the closure of the VSD. Thus, the need for a transannular patch diminishes or disappears. We think that the absence of dextroposition of the aorta in many of the tetralogy of Fallot (TOF) diagnoses [2] is the key point in

diminishing the need for a transannular patch. We wonder what the opinion of the authors is on this issue.

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LETTER TO THE EDITOR RESPONSE

Reply to Yurekli *et al.*

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We thank Yurekli *et al.* [1] for their questions and comments relating to our publication, where we examined how the post-operative pulmonary annular gradient related to pulmonary

valve annular size after total correction of tetralogy of Fallot [2]. We examined the patients who did not have significant post-operative right ventricular outflow tract obstruction (RVOTO).

We discussed the implications of our findings in the light of current practice and concluded that current recommendations for transannular patch insertion (for pulmonary annular stenosis) may leave a significant number of patients with an undesirable gradient across their pulmonary valve annulus postoperatively.

During repair of tetralogy of Fallot, it is our practice to divide muscular bands that we feel are causing RVOTO (this includes division of the parietal extension of the septomarginal trabecula). As our patients are usually about 6 months of age, we do not routinely resect muscle from the right ventricular outflow tract (RVOT) as is often required in older children (however, we will resect muscle if it is deemed necessary).

We only inserted a transannular patch if we felt that the pulmonary annulus was too small [2]. In the event that a patient had an unacceptable post-repair gradient across the RVOT (as revealed by intraoperative echocardiography), but had an adequate pulmonary valve annulus, we went back on

cardiopulmonary bypass and either resected more muscle from the RVOT or inserted a small RVOT patch.

It has been reported that 'dextroposition' of the aorta is present in all patients with tetralogy of Fallot [3]. We do not use the presence of 'dextroposition' to aid in 'decision making' relating to transannular patch insertion. We thank Dr Yurekli *et al.* once again for their questions and comments.

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LETTER TO THE EDITOR

Blood transfusion in coronary artery surgery: focus on modifiable risk factors

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We read with great interest the recently published study by De Santo *et al.* [1]. The study was conceived to identify preoperative and intraoperative patient characteristics predicting a higher risk of red blood cell (RBC) transfusion in isolated coronary artery bypass grafting (CABG), in order to reveal factors or practices that might be modified [1]. Eight predictors emerged through regression logistic analysis: age, body surface area, preoperative glomerular filtration rate, preoperative haemoglobin, surgical priority, length of cardiopulmonary bypass (CPB), intraoperative haemodilution and early postoperative blood loss [1]. The transfused group had higher values of chest tube output (CTO), $P < 0.0001$ [1]. CTO presents typical modifiable factors, but the question 'How to predict or prevent excessive CTO?' remains challenging.

In our opinion, when seeking for modifiable risk factors for blood transfusion, both pre- and intraoperative objective quantification of platelet activity as well as assessment of viscoelastic blood clot properties using rotational thromboelastometry should inextricably be taken into consideration [2, 3].

The efficacy of platelet inhibition with aspirin (ASA) and clopidogrel (CLO) varies widely among patients, from intensive platelet inhibition to poor platelet response [4], and those facts could,

to a certain degree, explain no impact of CLO and ASA administration on transfusion outcome [1]. Notably, it remains unclear how many patients were exposed to dual antiplatelet therapy (DAT) with ASA + CLO preoperatively. Was proportion of patients preoperatively exposed to DAT similar between the transfused and non-transfused groups? In addition, transfused patients more frequently underwent emergent or urgent surgery. Were patients in emergent and/or urgent subgroup more frequently exposed to DAT? The possible role of DAT in assessment of transfusion outcome should not be underestimated since further incremental platelet inhibition may be observed in the group of patients receiving DAT [5].

In our experience, prediction of excessive CTO is possible both pre- and intraoperatively [2, 3]. Recently, we found ASA- ($P = 0.014$) and CLO- ($P = 0.003$) sensitive platelet function tests to be predictive of excessive CTO in patients following CABG [2]. One hundred and sixty-one (76.3%) patients received RBC with no significant differences in RBC administration among the groups with regard to preoperative antiplatelet drug administration regime ($P = 0.636$) [2], which is in line with results in the present study [1]. However, comparison of the ASA-sensitive platelet function test