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Preoperative screening of iron deficiency as a risk stratification strategy for perioperative haemoglobin management

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Preoperative screening of iron deficiency as a risk stratification strategy for perioperative haemoglobin management

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Text

We read with great interest the IDOCS study by Dr Miles and colleagues that found no difference in days alive and at home up to 30 days after surgery (DAH30) between iron-deficient and iron-replete patients who underwent elective cardiac surgery.[1] However, we disagree with the conclusion drawn that routine preoperative iron deficiency (ID) screening in non-anaemic patients might be low-value care because the laboratory ID testing is not a whole screening but a risk stratification strategy for perioperative haemoglobin management. Our concerns on the study are as follows:

First, the eligibility criteria of the IDOCS study precluded ID patients who were more prone to developing anaemia, whose limitation could also be applied to the previous similar studies.[2,3] If non-anaemic ID patients had a high risk for developing severe postoperative anaemia, iron replacement therapy could be indicated preoperatively at the physician's discretion, in accordance with clinical guidelines on patient blood management.[4,5]

Second, the fact that the selected trial patients had low-risk elective cardiac surgeries should be noted. Reflecting the low EuroSCORE II values of both iron-deplete and iron-replete patients (Table 1), these patients had short surgery duration, a small percentage of the population receiving allogeneic blood transfusions, and a small amount of surgical blood loss (Tables 3 and S1). These profiles might have affected no difference in DAH30 and DAH90 (Table 2), as well as the authors' failure to demonstrate any between-group differences after reanalysing the outcomes by all alternative definitions of ID or low iron stores (Tables S15-17).

Third, conflicting results between the IDOCS study and the previous study by Miles and colleagues[2] require further discussion; the former showed no difference in length of hospital stay (LOS) after elective cardiac surgery while the latter showed that non-anaemic ID patients had a longer LOS by univariate analysis.[2] The discrepancy might imply context dependency of related observational studies.

Fourth, it seems unethical not to provide iron replacement therapy preoperatively to iron-deplete patients, since the British Committee for Standards in Haematology recommends iron supplementation in non-anaemic ID patients who are undergoing surgery with a predicted haemoglobin loss of >30 g/L;[4] perioperative haemoglobin changes in iron-deficient and iron-replete patients were 47.7 and 51.7, respectively (Table 3)

Collectively, the results of the IDOCS study rather suggested that effects of iron deficiency on postoperative outcomes are minimal among low-risk elective cardiac surgery patients. Given the conflicting literature, further research and systematic review

on this topic are warranted.

References

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