3. Deshaies i, m alka D, s oria JC, m assard C, Bahleda R, elias D. as highlighted by Dr Pai. 2) Most importantly, in their persisting leakage, because it might impair tract healing fact. 1) We do not advocate bevacizumab in patients with adjuvant bevacizumab. s everal points might explain this none of the 110 patients included in our study received meta-analysis published by mirnezami et al.2 h owever, increased risk of postoperative infectious complications. antiangiogenic agents and late anastomotic complications. We completely agree with finally, we completely agree with Dr Pai on his point highlighting that further research is mandatory on this topic to precisely define the optimal algorithm for these patients.

REFERENCES


Preoperative Blood Ordering Protocol for Elective Colorectal Surgery: A Call to Adjust the Perioperative Blood Transfusion

To the Editor—It was with great interest that we read the recent article by Aquina et al published in Diseases of the Colon & Rectum. As the article states, receipt of a blood transfusion was independently associated with an increased risk of postoperative infectious complications. The authors suggest that an increase in the use of transfusion protocols will significantly decrease blood-use rates. In this sense, over-ordering of preoperative blood is common practice in elective surgery, often without a proper analysis of the real needs of surgical procedures.

Preoperative identification of risk factors for transfusion has been used to create preoperative blood-ordering protocols based on the following calculations: the cross-matched:transfusion blood ratio, the number of patients transfused compared with those cross-matched (transfusion probability), and the number of units transfused relative to the number of cross-matched units (transfusion index). The values justifying blood ordering were cross-matched:transfusion blood ratio ≤2, transfusion probability >50%, and transfusion index ≥0.5

Our group previously published a retrospective study of 457 patients scheduled for elective colonic surgery where we found that transfusion rates were far from their optimal values (cross-matched:transfusion blood ratio = 5.34, transfusion probability = 16.2, and transfusion index = 0.18). Predictors of perioperative transfusion were previous diagnosis of chronic obstructive pulmonary disease (OR = 3.7 (95% CI, 1.3–10.7)), chronic cardiac disease (OR = 5.7 (95% CI, 1.7–19.5)), surgical time >120 minutes (OR = 10.7 (95% CI, 4.8–24.1)), and preoperative plasma hemoglobin <10 g/dL (OR = 309.8 (95% CI, 52.7–985.2)).

Based on these data we have continued with a prospective study to analyze the results of our preoperative blood-ordering protocol in the first 3 years of its implementation, which only included cross-matched blood for patients with risk factors for transfusion. A total of 268 consecutive patients undergoing elective colon surgery in 2013–2015 have been included in the analysis. All of the patients underwent elective colon surgery with plasma hemoglobin levels >10 g/dL. Considering the risk factors for transfusion, there were 94 total preoperative cross-matched red blood cell units, which were ordered in 47 patients (17.5%). Of these, 24 patients (51.1%) actually had a transfusion, and a total of 54 red blood cell units were used. The transfusion ratios were cross-matched:transfusion blood ratio of 1.44, transfusion probability of 61.7%, and transfusion index of 0.69. A total of 221 patients (82.5%), without risk factors for transfusion, were not cross-matched preoperatively, and only 5 of them (2.3%) received a transfusion in the first 24 hours after surgery (a total of 11 red blood cell units). None of these 5 patients needed an emergency transfusion because of a serious surgical adverse event.

We have found that following a protocol has significantly adjusted the ordering of preoperative cross-matched blood to the actual need according to procedure in elective colonic surgery. This protocol is based on easily measured risk factors and is added evidence that the adoption of protocols can reduce the variation in blood ordering and blood transfusion rates.
work in finding methods of reducing preoperative blood ordering, for which a cross-matched:transfusion blood ratio ≤2.0 has become a benchmark for clinical practice.1,3,4 Recent work has also shown that a reduction in preoperative blood ordering through the use of guidelines can significantly decrease institutional costs.4 It would also be interesting to evaluate the impact that these preoperative blood-ordering guidelines might have on overall perioperative transfusion rates and increased storage time of blood products, which may be associated with a higher risk of transfusion-related immunomodulation and subsequent infection.5 Again, we applaud their work and agree that the use of transfusion guidelines can limit unwarranted variation in transfusion practices.

REFERENCES


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The Authors Reply

To the Editor—We thank the authors for their interest in our study and appreciate their commentary.1 They present interesting findings from their previous work regarding excessive preoperative cross-matching of blood products, factors associated with perioperative blood transfusion, and a subsequent prospective study analyzing the results of a preoperative blood-ordering protocol to help limit variation in blood ordering for elective colonic surgery.2 After implementing the protocol, the cross-matched:transfusion blood ratio was 1.44 versus 5.34 in their previous study, and only 2.3% of those who were not preoperatively cross-matched required a transfusion. Although our previous work has focused on variation in the administration of blood transfusions for both colorectal surgery and upper GI cancer resection, we applaud their work in finding methods of reducing preoperative blood ordering, for which a cross-matched:transfusion blood ratio ≤2.0 has become a benchmark for clinical practice.1,3,4 Recent work has also shown that a reduction in preoperative blood ordering through the use of guidelines can significantly decrease institutional costs.4 It would also be interesting to evaluate the impact that these preoperative blood-ordering guidelines might have on overall perioperative transfusion rates and increased storage time of blood products, which may be associated with a higher risk of transfusion-related immunomodulation and subsequent infection.5 Again, we applaud their work and agree that the use of transfusion guidelines can limit unwarranted variation in transfusion practices.

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