Preoperative management of children with sickle cell disease undergoing major abdominal surgery

To the Editor

I read with interest the brief communication on "preoperative management of children with sickle cell disease (SCD) undergoing major abdominal surgery by Al Salem et al.[1] The authors advocated preoperative simple blood transfusion in sickle cell children undergoing major abdominal surgery. This finding is similar to that reported from the United States of America by the preoperative transfusion in SCD study group[2] in a randomized multicenter trial confirming that a conservative transfusion regimen, designed to increase the hemoglobin (Hb) level to 10g per deciliter, was as effective as an aggressive regimen designed to decrease HbS level to <30% in preventing perioperative complications in patients with SCD.[2] Moreover, the conservative regimen was even associated with lower transfusion-related complications. However, this is entirely different from our experience with the adult sickle cell population undergoing major abdominal surgery. Early in our experience with laparoscopic cholecystectomy is sickle cell patients with gallstones.[3] We adopted a simple transfusion policy (single or multiple) in any patients with preoperative Hb of <10g per deciliter regardless of HbS concentration. Any patient with Hb of >10g per deciliter had no transfusion. None of the first 30 patients presented in our earlier report have received exchange transfusion.[3] A single mortality in our series has prompted us to revise our transfusion policy by introducing partial exchange transfusion in patients who were thought to have had severe disease as judge by the history of frequent hospital admissions with sickling crises and more sickle-related complications.[4] Since then no single mortality was encountered. In addition, we have retrospectively compared the morbidity and mortality associated with surgery in 71 adult sickle cell patients who were undergoing surgery using 3 different methods of preoperative transfusion: simple transfusion (group 1); partial exchange transfusion (group 2) and 'no transfusion' (group 3).[5] The risk of postoperative complications was highest in the simple transfusion group and lowest in the exchange transfusion group (12.7% and 0%). There were no transfusion-related complications, but there was one mortality in the 'no transfusion' group. Contrary to what has been found in children with SCD by Al Salem et al,[1] our findings showed that partial exchange transfusion method to be superior to simple and to 'no transfusion' methods in reducing postoperative complications in patients with SCD undergoing laparoscopic surgery.[5] This conclusion can be extended to all surgical interventions in sickle cell patients, but further evaluation by multicenter prospective randomized trials is certainly needed.[5] For surgeons adopting the exchange policy, a word of caution, however, is that sickle cell patients who have had preoperative exchange transfusion should not be given any pharmacological thromboprophylaxis as this may increase the risk of intraoperative bleeding and abdominal wall hematoma.[6]

This difference in results also raises the question of possible differences in the sickle cell behavior between adult and children undergoing major surgical intervention.

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Reply from the Author

Author declined to reply.

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