Implementing a blood management protocol during the entire perioperative period allows a reduction in transfusion rate in major orthopedic surgery: a before-after study

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Résumé en anglais	BACKGROUND Patient blood management (PBM) must be promoted in orthopedic surgery and relies on different strategies implemented during the entire perioperative period. Our aim was to assess whether the introduction of a pre-, intra-, and postoperative PBM protocol combining erythropoietin (EPO), ferric carboxymaltose (FCM), and tranexamic acid was effective in reducing perioperative transfusion and postoperative anemia. STUDY DESIGN AND METHODS In a two-phase prospective observational study, all patients admitted for total hip or knee arthroplasty were included the day before surgery. In Phase 1, use of EPO, iron, and tranexamic acid was left to the discretion of the anesthesiologists. In Phase 2, a protocol combining these treatments was implemented in the perioperative period. Perioperative hemoglobin levels and transfusion rates were recorded. RESULTS A total of 367 patients were included (184 and 183 in Phase 1 and 2, respectively). During Phase 2, implementing a PBM protocol allowed an increase in preoperative EPO prescription in targeted patients (i.e., with Hb < 13 g/dL; 18 [38%] vs. 34 [62%], p = 0.03) and in postoperative use of intravenous iron (12 [6%] vs. 32 [18%], p = 0.001) and tranexamic acid (157 [86%] vs. 171 [94%] patients, p = 0.02). In Phase 2, the number of patients who received transfusions (24 [13%] vs. 5 [3%], p = 0.0003) and of patients with a Hb level of less than 10 g/dL at discharge (46 [25%] vs. 26 [14%], p = 0.01) were reduced. CONCLUSION Introduction of a PBM protocol, using EPO, FCM, and tranexamic acid, reduces the number of perioperative transfusions and of patients with a Hb level of less than 10 g/dL at discharge.
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