Chirurgia (Bucur). 2019;114(2):234-242
http://dx.doi.org/10.21614/chirurgia.114.2.234

Perioperative Anemia and Transfusion in Colorectal Cancer Patients

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Abstract

Background: Both anemia and blood transfusion are now considered independent risk factors for poor outcome in colorectal cancer patients. Severe anemia can increase tumor aggressiveness and blood transfusion may induce immunosuppression and promote cancer recurrence. Specific Patient Blood Management (PBM) strategies for oncological surgical patients are insufficiently defined and recommended.

Primary objective: Evaluation of the perioperative anemia prevalence and transfusion rate in colo-rectal cancer patients. Secondary objectives: Sub-group analysis of anemic versus non-anemic patients and colon versus rectal cancer patients.

Methods: We retrospectively reviewed records from all consecutive surgical oncological patients admitted between January and June 2017. We selected major lower abdominal surgical patients and then colorectal surgical patients. The dynamics of perioperative hemoglobin values (preoperative =Hb1, postoperative= Hb2, at discharge= Hb3), anemia prevalence and transfusion rate were evaluated. Statistical analysis used Student t test, Wilcoxon signed-rank and Chi-square tests from SPSS 17.

Results: Of the 1284 patients screened, 546 patients were submitted to major lower abdominal surgery and 260 patients to colorectal cancer surgery. The mean age was 65.6 ± 11.1 years, 57.7% males. The perioperative dynamics of hemoglobin was Hb1/Hb2/Hb3 =12/10.6/10.4 g/dL. Anemia prevalence was 52.3/82.3/82.6% preoperatively/postoperatively/at hospital discharge. Global transfusion rate was 23.8%, with pre/intra/postoperative distribution of 2.3/11.9/10.8%. Anemic patients were older (p=0.005), with a higher transfusion rate (p<0.001) and a longer hospital length of stay (p=0.04). Colon cancer patients had lower Hb values (p=0.001) and higher prevalence of preoperative anemia (p=0.001) comparing with rectal cancer patients.

Conclusions: Colorectal cancer patients have a high prevalence of perioperative anemia, exceeding 80% at hospital discharge and requiring transfusion in about 25% of cases. There is an urgent need of PBM program implementation in this selected group of surgical patients.

Key words: anemia, blood transfusion, colorectal cancer