Preoperative anemia increases risk for poor outcome after abdominal surgery

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Introduction:
Anemia is a common finding in preoperative period, and often increases the need for blood transfusion. The aim of the study: to explore the relation between moderate or severe preoperative anemia (Hb levels <10 g/dl) and postoperative outcome and also the impact of preoperative blood transfusion on the outcome.

Methods:
Prospective observational study on patients, who underwent abdominal surgery in University Hospital Center of Tirana, that stayed more than 48 hours in hospital. Univariate and multivariate analysis used to determine relation between variables.

Results:
The study included 540 patients. 107 patients, 19.6% had Hb levels <10 g/dl. 63.55% of the patients with anemia developed at least one postoperative complication demonstrating a greater risk for their occurrence (OR:3.22, 95%CI:2.07-5.00) and increased in-hospital mortality (OR:4.55, 95%CI:2.42-8.55). Length of hospital stay was longer for patients with preoperative anemia compared to them without anemia, respectively: 9.86±5.92 days, versus 7.40±4.19 days, P<0.0001. Multivariate analysis adjusted for confounders showed that moderate and severe preoperative anemia was an independent risk factor for the occurrence of postoperative complications (OR:2.15, 95%CI:1.25-3.71), especially for surgical complications (OR:2.93, 95%CI: 1.55-5.52).
50 patients (9.25%) received preoperative blood transfusion, which resulted in an increased risk for postoperative complications (OR:6.88, 95%CI:3.36-14.10) and in-hospital mortality (OR:10.93, 95%CI:5.46-21.9), compared to patients who did not receive blood transfusion. (P-value significant)

Conclusion:
19.6% of patients had moderate or severe preoperative anemia. Anemia resulted an independent risk factor for postoperative complications and it increased the length of hospital stay and in-hospital mortality. A better preoperative treatment of anemia, avoiding blood transfusion, can improve postoperative outcome of the patients.