

The risk factors of the hidden blood loss during peri-operative period of artificial femoral head replacement

Rui Yang

Chongqing Three Gorges Medical College, China

Background: To analyze the risk factors of the hidden blood loss during peri-operative period of artificial femoral head replacement.

Method: Retrospective analysis was made on the clinical data of patients who underwent artificial femoral head replacement in our hospital from January 2019 to August 2022. 106 patients were included in this study, including 57 males and 49 females, aged 72 to 97 years, with an average age of (80.5±12.4) years. The hidden blood loss during peri-operative period was calculated according to Gross equation. Single factor analysis and multiple linear regression analysis were used to explore the relationship between gender, age, BMI, cause of injury, fracture type, time from injury to operation, preoperative anticoagulation, the use of tranexamic acid, postoperative complications, hypertension, diabetes, ASA classification, anesthesia mode, prosthesis type, operation time, postoperative weight bearing time and the hidden blood loss during peri-operative period.

Results: The average hemoglobin within 72 hours after operation was 85.65 g/L, 21.85 g/L lower than that before operation. The hidden blood loss of all patients were (262.43±85.79) ml. There were 94 patients with anemia, the incidence of anemia was 88.68%. There were 29 patients received blood transfusion, and the transfusion rate was 27.36%. Single factor analysis showed hidden blood loss had statistical difference among patients with different ages, fracture types, injury to surgery time, preoperative anticoagulation ($P<0.05$). There was no statistically significant difference in the hidden blood loss during perioperative period among patients with different gender, BMI, cause of injury, the use of tranexamic acid, postoperative complications, hypertension and diabetes, ASA classification, anesthesia mode, prosthesis type, operation time, and postoperative weight bearing time ($P>0.05$). Multiple linear regression analysis showed that age, fracture type, time from injury to operation, and preoperative anticoagulation were all risk factors for hidden blood loss during perioperative period of artificial femoral head replacement ($P<0.05$).

Conclusion: Perioperative hidden blood loss of artificial femoral head replacement should be concerned by joint surgeons, which is affected by many factors. Age, fracture type, time from injury to operation, and preoperative anticoagulation are all risk factors for hidden blood loss during perioperative period.