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Statin use increased perioperative blood loss in reverse total shoulder arthroplasty.

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Introduction and Background

Statins are widely prescribed for hyperlipidemia, and previous research has suggested potential anticoagulant effects. However, whether statins increase perioperative bleeding during arthroplasty remains unclear. This study aimed to evaluate perioperative blood loss in reverse total shoulder arthroplasty (RSA) and assess the impact of statin use. We hypothesized that statin use would be associated with increased postoperative bleeding.

Material and Method

A retrospective review of RSA cases was conducted. Cases involving revision surgery, proximal humeral fracture, fracture sequelae, or cemented stem fixation were excluded. Patients taking anticoagulants, antiplatelet agents, ethyl isopentane, or prostaglandin E1 analogs were also excluded. Variables collected included age, sex, height, weight, BMI, ASA classification, smoking status, preoperative laboratory data (hemoglobin, hematocrit, eGFR, APTT), hematocrit on postoperative day 3, operative time, and stem length. Comorbidities such as diabetes mellitus and hypertension were recorded. Estimated blood loss (EBL) was calculated using the Gross formula based on hematocrit change. Multiple regression analysis was performed to identify predictors of EBL, with statistical significance set at $P < .05$.

Results

A total of 245 RSA cases were included (156 female; mean age, 77.7 years). Statins were used in 62 cases (25%). Mean EBL was 757 mL. The regression model was significant ($P < .0001$, $R^2 = 0.18$). Statin use, male sex, tranexamic acid administration, and ASA category were significant predictors. Statin use was associated with an estimated increase of 124 mL in EBL.

Conclusions

Statin use was a significant predictor of increased perioperative blood loss in RSA. However, the increase was modest, and its clinical relevance remains uncertain. Decisions regarding perioperative statin continuation should be individualized, weighing bleeding risk against the cardiovascular benefits of ongoing statin therapy.