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**Preoperative Transfusion is Associated with Higher Risk of Urinary Tract Infection Among Patients Recovering from Surgery for Femoral Shaft Fracture**

**Introduction:**

Patient may require preoperative blood transfusion which may carry associated complications. This study examines the relationship between preoperative transfusion and Urinary Tract Infection (UTI) among patients recovering from open reduction and internal fixation (ORIF) for femoral shaft fractures.

**Methods:**

A retrospective cohort study using the National Surgical Quality Improvement Program (NSQIP) database (2012–2021) included patients aged  $\geq 18$  years undergoing ORIF. The primary exposure was transfusion of  $\geq 1$  unit of whole or packed red blood cells within 72 hours preoperatively. Patients were grouped by transfusion status. Potential confounders included demographics, health status, and procedural characteristics. Chi-square tests assessed cohort differences, and multivariable regression adjusted for confounders to determine the impact of transfusion on 30-day postoperative UTI risk.

**Results:**

Among 6,812 ORIF cases, 373 (5.48%) received a preoperative transfusion. In both cohorts, most patients were aged 80–89, White, non-Hispanic, female, had normal BMI, no chronic immunosuppression, no diabetes, no smoking, ASA classification of 3, independent function status prior to surgery, and elective case designation. Also, most patients presented from home and received general anesthesia [Table 1]. On multivariable regression adjusting for potential confounders, patients who received a preoperative transfusion had 2.04 times higher odds (95% CI 1.22 to 3.27;  $p=0.005$ ) of developing a UTI following ORIF for femoral shaft fracture compared to patients who did not receive a preoperative transfusion. [Table 2]

**Conclusion:**

Patients who received preoperative transfusions had more than doubled their risk of having a UTI following ORIF. Further studies into risk stratification and medical management may help to reduce UTI occurrence during recovery, especially among patients who must receive a transfusion during the preoperative period.