

## 900 **COMPARING THE BLEEDING AND COMPLICATIONS OF TOTAL KNEE ARTHROPLASTY AFTER TOPICAL AND INTRAVENOUS TRANEXAMIC ACID INJECTION: A RANDOMIZED CLINICAL TRIAL**

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**TITLE:** COMPARING THE BLEEDING AND COMPLICATIONS OF TOTAL KNEE ARTHROPLASTY AFTER TOPICAL AND INTRAVENOUS TRANEXAMIC ACID INJECTION: A RANDOMIZED CLINICAL TRIAL

**INTRODUCTION:** Total knee arthroplasty has much blood loss. One way for reducing this amount of blood loss is prescribing anti fibrinolytic drugs such as Tranexamic acid with different doses and topical and intravenous injection. There is no approved superiority between topical and intravenous Tranexamic acid injection after total knee arthroplasty. This study was designed to compare the complications of total knee arthroplasty after injection of topical and intravenous Tranexamic acid.

**METHODS:** In this randomized clinical trial, patients referred to Baqiyatallah Orthopedic clinic in May 2015 to May 2016 for total knee arthroplasty were included. Those who had any history of renal, cardiovascular, cerebrovascular and thromboembolic disorders were excluded. Informed consent was obtained from patients. Patients were divided randomly into two groups by random numbers table; group one received 20mg/kg intravenous Tranexamic acid (10mg/kg before and after operation) while group two received 1.5gr topical Tranexamic acid. The bleeding amount, before and after operation hemoglobin, need for blood transfusion, mean surgery time, mean admission time and other complication were compared between the two groups by SPSS software.

**RESULTS:** Fifty-six patients with the mean age of  $60.13 \pm 5.74$  years were evaluated. No significant differences were observed in demographic data such as age, gender, weight and BMI between two groups. There were no significant differences in hemoglobin levels before (P value=0.424) and after surgery (P value=0.110), operation and post-op bleeding (P Value=0.157), need for blood transfusion (P Value=0.313), hematoma, mean surgery time (P Value=0.521), mean admission time (P Value=0.373) and total complications (P Value=0.533), between the groups. Only one patient in the intravenous group needed blood transfusion. None of patients had DVT and pulmonary embolism.

**CONCLUSION:** Considering that no significant differences was seen between topical and intravenous Tranexamic acid, topical use is recommended in patients having problem with systemic Tranexamic acid. However, because of different results, heterogeneous samples, and confounding factors of previous studies, approving above results need more evaluations.