

The Reduction of Blood Loss by Using of Tranexamic Acid During Total Knee Arthroplasty

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Abstract

Background: Blood loss is the main complication associated with total knee arthroplasty with its risks of transfusion. Strategies are mandated to decrease blood loss and to reduce its consequence risks and costs of blood transfusion.

Objective: To find out the effect of tranexamic acid in reduction of blood loss intra and postoperatively blood loss and lowering the rates of homologous blood transfusions in total knee arthroplasty.

Patients and Methods: A non-randomized controlled clinical trial was conducted on 40 patients having total knee arthroplasty. In the first study group (20 patients) given tranexamic acid intra-articularly just before the tourniquet was deflated and the drain was locked. External postoperative blood loss was recorded together with the estimated amount of blood lost intraoperatively. The patients whom given blood transfusion with the number of packed red cells given was recorded also; any thromboembolic event postoperatively was investigated.

Results: Reduction in the total drain output, total blood loss and in the need of homologous blood transfusion was observed in first group whom given tranexamic acid, as compared to the second control group which were statistically significant ($p < 0.001$). In the control group the postoperative hemoglobin and hematocrit levels were significantly lower ($p = 0.001$ and 0.036 , respectively) which were recorded at fifth postoperative day.

Conclusion: Intra-articular injection of tranexamic acid is associated with significantly marked reduction in both blood loss and the need of blood transfusion in patients undergoing total knne arthroplasty.

Key words: Antifibrinolytic drugs, blood loss, hemoglobin, Knee arthroplasty, ranexamic acid.

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