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THE EFFICACY OF TRANEXAMIC ACID IN REDUCING PERIOPERATIVE BLOOD LOSS IN TOTAL HIP ARTHROPLASTY

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Total hip arthroplasty (THA) is a common surgical procedure indicated for patients with hip osteoarthritis. A significant concern during THA is perioperative blood loss, which can increase the risk of postoperative anemia and the need for allogeneic blood transfusions. Tranexamic acid (TXA), a synthetic lysine analog, functions by inhibiting plasminogen activation, thereby reducing fibrinolysis and bleeding. Recent studies have demonstrated its utility in various surgical fields, including orthopedics. A 68-year-old female with a history of chronic osteoarthritis and no significant cardiovascular or thromboembolic events presented for elective primary THA. Preoperative evaluation revealed controlled hypertension and normal coagulation profiles. In view of minimizing intraoperative bleeding and reducing transfusion requirements, the surgical team decided to use TXA as part of the blood management protocol. A single dose of tranexamic acid was administered before the skin incision according to the recommended dosage of 1 gram via slow intravenous infusion (1 ml/minute). The surgery was uneventful, with an estimated blood loss of 1331 mL calculated with the Mercuriali's formula for blood loss. Postoperative management included routine thromboprophylaxis with enoxaparin 40 mg once daily and early mobilization. Postoperative hemoglobin was 119 g/L, and no transfusion was required. The patient had an uneventful recovery and was discharged on fifth postoperative day. TXA has been shown to significantly reduce blood loss and transfusion rates in THA without increasing thromboembolic risk when used appropriately. Multiple studies support the use of TXA, demonstrating its safety profile even in patients with controlled cardiovascular comorbidities. In this case, TXA administration effectively minimized intraoperative blood loss, maintained postoperative hemoglobin levels, and eliminated the need for transfusion. The use of TXA in THA is a valuable strategy to reduce blood loss and avoid transfusion-related complications. Further research and larger studies will continue to refine optimal dosing strategies and patient selection criteria.

Keywords: Total Hip Arthroplasty, Tranexamix Acid, Osteoarthritis