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Tranexamic acid use in lower limb arthroplasty: The Derriford experience

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Patients undergoing lower limb arthroplasty have increased risk of perioperative bleeding. Prevention of bleeding with an anti-fibrinolytic may be preferable to blood transfusion. Tranexamic Acid (TXA) inhibits fibrinolysis by competitively blocking plasminogen binding sites. We retrospectively sampled all patients who underwent primary Total Knee Replacement (TKR) and Total Hip Replacement (THR) for one month. We assessed whether patients were given TXA, amount of blood loss, rates of transfusion and length of stay. Departmental policy was implemented advising use of TXA for lower limb arthroplasty unless hypersensitive. Repeat retrospective sampling and analysis was performed. The initial study of 33 TKR and 17 THR showed mean patient age of 66 years with 60% female. Two THR patients received TXA, compared to 17 TKR patients. Change in hemoglobin levels pre to post-operatively were 3.06 g/L for the non-TXA group versus 2.29 g/L for the TXA group. Independent t-test was statistically significant, $p=0.003$. Two patients received blood transfusion; both did not receive TXA with blood loss over 3 g/L. Mean length of stay for the non-TXA group was 5.06 days compared to 3.74 days for the TXA group. Repeat analysis after policy implementation gave a study-set of 49. Mean patient age was 67 years with almost 60% males. Similar proportions of TKR and THR were noted to the initial study with 32 TKR and 17 THR. We saw dramatic improvement in use of TXA; 30 TKR and 13 THR patients in total. By extrapolating the improved use of TXA, this represents a total of 33.11 g/L blood loss saved cumulatively across the 43 patients who received TXA. The cumulative outcome of the 43 patients who received TXA had a shorter hospital stay by 56.76 days. This represents a benefit to patients and the hospital with decreased rates of blood loss, shorter length of stay with significant cost saving.

Biography

Andrew Clarke is an NHS Orthopaedic Consultant at Institution of Plymouth Hospitals NHS Trust at UK. His are of interest are Wrist surgery, Elbow and Hand surgery.

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