## Perioperative Tranexamic Acid Should be Considered for Total Joint Arthroplasty Patients Receiving Apixaban for Thromboprophylaxis

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<sup>1</sup>Department of Orthopaedic Surgery, <sup>2</sup>Keck School of Medicine of USC INTRODUCTION:

The aim of this study is to investigate if the perioperative administration of TXA for total joint arthroplasty (TJA) patients receiving apixaban for thromboprophylaxis can reduce the risk of postoperative bleeding without increasing the rate of thromboembolic events.

METHODS: The Premier Healthcare Database was utilized to identify all primary elective total knee arthroplasty (TKA) and total hip arthroplasty (THA) patients. Patients receiving apixaban during their in-hospital admission who received TXA on the day of surgery were compared to those who did not receive TXA. Differences in demographics, hospital characteristics, and comorbidities were assessed between groups. Univariate and multivariable regression were utilized to assess differences in 90-day bleeding, thromboembolic, and medical postoperative outcomes between cohorts. RESULTS:

In total, 118,219 TJA patients were identified (TKA: 65.32%; THA: 34.68%), of which 30,592 (25.9%) received apixaban alone and 87,627 (74.1%) received apixaban and TXA. Multivariable analyses found that patients who received apixaban and TXA had a reduced risk of aggregate bleeding complications (adjusted odds ratio [aOR] 0.834, 95%-confidence interval [CI]: 0.808-0.862, p<0.001), transfusion (aOR 0.471, 95%-CI: 0.431-0.515, p<0.001), acute anemia (aOR 0.840, 95%-CI: 0.813-0.868, p<0.001), deep vein thrombosis (aOR 0.736, 95%-CI: 0.656-0.826, p<0.001), and pulmonary embolism (aOR 0.835, 95%-CI: 0.724-0.961, p=0.012). No differences between cohorts was observed for risk of stroke (aOR 1.090, 95%-CI: 0.816-1.456, p=0.372), and myocardial infarction (aOR 0.939, 95%-CI: 0.758-1.163, p=0.564).

DISCUSSION AND CONCLUSION: Perioperative administration of TXA to TJA patients receiving apixaban for thromboprophylaxis reduces the risk of bleeding complications without increasing the risk of thromboembolic complications. Arthroplasty surgeons should strongly consider providing TXA to TJA patients receiving apixaban.

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