

## **Metabolic Syndrome is an Independent Risk Factor for Prolonged Hospital Stay Following Unicompartmental Knee Arthroplasty**

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**INTRODUCTION:** Metabolic syndrome is known to negatively impact the odds of cardiovascular disease and all-cause mortality in individuals. Although the impact of metabolic syndrome has been studied in elective procedures, such as lumbar fusions and total joint arthroplasties, its effect on unicompartmental knee arthroplasty (UKA) has yet to be elucidated. The aim of this study is to evaluate the clinical impact of metabolic syndrome on outcomes following UKA.

**METHODS:** Adult patients undergoing primary UKA were queried in the National Surgical Quality Improvement Program database from 2006-2019. Metabolic syndrome was defined by the simultaneous presence of hypertension, diabetes, and body mass index  $\geq 30$  kg/m<sup>2</sup>. Two patient groups were categorized in this study: patients with metabolic syndrome and patients without metabolic syndrome. Baseline characteristics and postoperative outcomes were compared between the 2 cohorts with the use of bivariate and multivariate analyses.

**RESULTS:** In total, 10,557 patients underwent UKA. Of these, 9,511 patients (90.1%) did not have metabolic syndrome whereas 1,046 (9.9%) had metabolic syndrome. On bivariate analysis, when compared to non-metabolic syndrome patients, those with this condition were more likely to experience pneumonia ( $p=0.043$ ), urinary tract infections ( $p=0.029$ ), sepsis ( $p=0.011$ ), extended length of stay  $> 4$  days ( $p<0.001$ ), and hospital readmission ( $p=0.016$ ). Following adjustment for potential confounding variables on multivariate regression models, metabolic syndrome patients no longer had an increased risk for any postoperative complication except for an extended length of stay  $> 4$  days (OR 1.663; 95% CI 1.100 to 2.515;  $p=0.016$ ).

### **DISCUSSION AND CONCLUSION:**

Patients with metabolic syndrome are at an increased risk of prolonged hospital stay following UKA. Determining patient risk factors and creating optimal preoperative and perioperative management plans in patients with metabolic syndrome undergoing UKA can be beneficial to reduce the financial burden associated with prolonged hospital stay.