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## Incidence and risk factors of acute kidney injury after total joint arthroplasty: A retrospective cohort study

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**Background:** Acute Kidney Injury (AKI) is a common complication post-arthroplasty, although it has not been extensively studied. We carried out a retrospective study to determine the incidence and risk factors of AKI in patients undergoing total joint arthroplasty (TJA).

**Aims:** Calculate the incidence of patients suffering from AKI after the changes made from the 2014 audit. Find out the major pre- and perioperative risk factors of AKI in the cohort of patients.

**Method:** We reviewed the medical records of all patients who underwent elective TJA from December 2014 to January 2017 at the Salford Royal Hospital, UK. AKI was defined using the AKIN, RIFLE and KDIGO criteria in patients with worsened renal function post-arthroplasty. We analysed the association of the demographics, risk factors, medications and use of peri-operative IV fluids with AKI. A logistic regression was performed to find any correlation between these factors and incidence of AKI.

**Results:** 197 patients were included in our study, the mean age was 70.2 and male to female ratio was 6:5. Of these, 32(16.2%) developed an AKI. The multivariate logistic regression revealed 4 independent factors associated with the risk of AKI; age ( $P=0.0011$ , OR 1.07, 95% CI 1.03-1.18), obesity ( $P=0.003$ , OR 6.4, 95% CI 2.34-17.5), smoking ( $P=0.0482$ , OR 3.76, 95% CI 1.01-14.0) and COPD ( $P=0.0253$ , OR 3.85, 95% CI 1.18-12.5).

**Conclusion:** The incidence of AKI post-arthroplasty was found to be much higher than stated in other literatures. The recognition of the high incidence and multiple independent risk factors will allow a better approach to peri-operative management, limiting the risks of AKI. Our study also highlighted the importance of documenting urine output and the need to repeat the renal function test 3 months after an AKI to assess recovery.

### Biography

Izziddine Vial is an intercalating medical student at Hull York Medical School doing MSc in Clinical anatomy. He will continue his medical studies at the University of Manchester as a 4th-year medical student. He has a special interest in trauma and orthopaedics.

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