

Lower Extremity Arterial Calcification Predicts Referral to Intensive Care Unit after Primary Total Hip Arthroplasty

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INTRODUCTION:

Lower extremity arterial calcification (LEAC) increases the risk of cardiovascular adverse events in patients with peripheral arterial disease, but its impact on postoperative complications and intensive care unit (ICU) referral after primary total hip arthroplasty (THA) is unclear. We aimed to investigate the impact of LEAC on postoperative outcomes in primary THA patients.

METHODS: We retrospectively analyzed 705 patients who underwent primary THA, [identifying 64 \(9.13%\) patients](#) with and 641 without LEAC. Patients with LEAC were older (77 ± 9.99 vs. 67 ± 11.5 years; $p<0.001$). A preoperative anteroposterior pelvic radiograph was used to evaluate the presence of LEAC. Admission to ICU, length of stay, readmissions, and 90-day mortality were recorded. A logistic regression model was used to identify LEAC as an independent risk factor for referral to ICU.

RESULTS:

Patients with LEAC had higher incidence of admission to ICU (8 [[12.5%](#)] vs. 7 [1.09%]; $p<0.001$), longer in-hospital stay (4.7 ± 1.8 vs. 4.2 ± 1.3 days; $p=0.006$; higher readmissions (16 [25%] vs. 33 [5.15%]; $p<0.001$), and higher 90-day mortality rate (6 [9.3%] vs. 0 [0%]; $p<0.001$) than patients without LEAC. Of the patients with LEAC admitted to ICU, only 3 of 8 (37.5%) had a previous indication to do so in the preoperative assessment performed by the Department of Anesthesiology, while all non-LEAC ones referred to ICU did so. Logistic regression analysis showed that LEAC was an independent risk factor for ICU admission (OR 4.6; 95%CI 1.3-16.3, $p=0.019$).

DISCUSSION AND CONCLUSION: LEAC was an independent risk factor for admission to ICU, longer in-hospital stay, and higher 90-day mortality rate. Identifying patients with LEAC can aid in the preoperative assessment and risk stratification of patients planned for primary THA.