Paper #54

Factors Influencing Reoperation of Total Knee Arthroplasty in Vasculopathic Patients

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Introduction: Total knee arthroplasty (TKA) in patients with peripheral vascular disease has sparsely been studied. This study examined patient and radiographic factors that could affect reoperation free survival in these patients.

Methods: We retrospectively reviewed 360 TKA procedures performed in 309 patients with diminished or absent pulses on physical exam between January 1, 2004, and December 31, 2013. Ninety-two cases met inclusion criteria. Preoperative ankle brachial index (ABI), date of surgery, sex, age, BMI, tourniquet use, ASA score, presence of preoperative calcifications and follow-up data were obtained. Failure was defined as reoperation. Patients were included if they experienced a failure or had at least two years of follow up. Reoperation free survival was calculated by Kaplan-Meier analysis. Odds ratios were calculated for patient factors; hazard ratios were calculated by Cox regression analysis.

Results: Ninety-two TKAs were included in the study. Mean age was 68.3 years, mean BMI was 32.43, and mean ASA score was 2.43. Tourniquet was used in 77 patients. Mean preoperative ankle-brachial index was 1.016. Eight patients had calcifications on x-ray prior to surgery. Reoperation free survival was 9.378 years. Patients with a preoperative ABI of below 0.7 had shorter reoperation free survival (ABI <0.7, 6.854 years; ABI>0.7, 9.530 years; p =.015). Patients with a preoperative ABI below 0.7 had greater odds of failure and were at higher risk for earlier failure (OR = 6.4 p=0.03, HR =1.668 p=0.047). When corrected for age, sex and BMI, the hazard ratio for patients with a preoperative ABI below 0.7 worsened (HR =1.913 p=0.036). The remaining patient factors produced no statistically significant differences in survivorship, odds of failure, or hazard ratios.

Conclusions: These results suggest that patients who undergo TKA with an ABI of below 0.7 are at increased risk for reoperation and have shorter reoperation free survival.

Notes