

Outcomes of foot and ankle surgery in transplant patients with diabetes mellitus

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Background: Diabetes mellitus (DM) is prevalent in foot and surgery patients and is associated with increased rates of infectious and noninfectious complications. To the best of our knowledge, postoperative foot and ankle complications have not been studied in diabetic transplant patients. Our hypothesis was that diabetic patients with histories of solid organ transplantation would experience higher rates of postoperative infectious and non-infectious complications following foot and ankle surgery compared with diabetic patients who have not undergone solid organ transplantation. **Methods:** The database of a single academic foot and ankle program was reviewed for diabetic transplant patients who underwent reconstructive foot and ankle surgery from 2005 to 2013. Solid organ transplantation was defined as cardiac, liver, lung, pancreas and/or renal. Inpatient and outpatient records identified 28 patients, who were then matched with 56 diabetic patients without previous solid organ transplantation based on age, gender and length of surgery. The 28 transplant patients underwent a total of 40 reconstructive procedures. A logistic regression model with robust standard errors was used for analysis. Significance was set at $p < 0.05$ with associated 95% confidence intervals. **Results:** Diabetic transplant patients undergoing foot and ankle surgery did not experience statistically significant increased risk of overall complications ($p = 0.696$), infectious complications ($p = 0.487$) or non-infectious complications ($p = 0.807$). The rates of malunion ($p = 1.000$), delayed/nonunion ($p = 0.758$) and hardware failure ($p = 0.429$) were not significantly higher than control patients. Transplant patients did experience a non-significant elevated risk for experiencing delayed/ nonunion (odds ratio 1.36 [95% CI 0.19-9.53, $p=0.758$]). Mortality records indicated 4 of 28 transplant patients (14%) died from non-orthopaedic surgery-related events during the follow up assessment, whereas no deaths occurred in the control group. **Conclusion:** Diabetic patients with previous solid organ transplantation do not appear to be at increased risk for postoperative complications after foot and ankle surgery despite being immunocompromised. Transplant patients exhibited higher mortality rates; however their premature deaths were unrelated to their foot and ankle surgery. Surgeons who treat transplant patients can recommend foot and ankle surgery when indicated, citing complication rates that are comparable to diabetic patients without a history of transplantation. Because of the increased mortality rates and comorbidities associated with transplant patients, we recommend preoperative clearance from the transplant team and medical consultants prior to performing surgery.