Risk of Postoperative Infection Following Carpal Tunnel Release in Patients with Diabetes Mellitus: A Review of 658 Surgeries

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Abstract:

Purpose: The goals of this study were to determine the postoperative risk of infection in diabetic versus non-diabetic patients, as well as the influence of prophylactic antibiotics and HbA1c values.

Methods: Electronic charts of all patients undergoing carpal tunnel release from January 2002 to September 2012 at the Louis Stokes Cleveland VAMC were reviewed for incidence of postoperative infection. Infection was defined as any wound complication requiring the administration of antibiotics, excluding prophylactic antibiotics, or a diagnosis code of postoperative infection. The progress notes of any patient who received antibiotics perioperatively were further reviewed to determine the indication and subsequently classified as having a postoperative infection if appropriate. Charts were also reviewed for age at time of surgery, diabetic status at time of surgery, sex, and perioperative HbA1c. Statistics were performed with chi square and descriptive statistics.

Results: 528 patients underwent 658 surgeries. 260 (35.1%) cases had DM at the time of surgery. 92.2% of cases were male with a mean age of 62.2 years. Of all cases, 177 (26.9%) received perioperative antibiotics: 88 (49.7%) received these antibiotics as prophylaxis and 27 (15.3%) for SSI (Figure 1A). The cases that received prophylactic antibiotics included 57 cases with DM and 31 without DM. Of patients with SSI, 8 (29.6%) were diabetic versus 19 (70.4%) non-diabetic ($p>0.05$). Overall, 3.1% of diabetic and 4.8% of non-diabetic patients experienced SSI. When patients with prophylactic antibiotics were excluded, 3.8% of diabetic and 4.9% of non-diabetic patients experienced SSI ($p>0.05$) (Figures 1B and 1C). Incidence of infection in diabetic patients was not significantly lower in patients on prophylactic antibiotics ($p>0.05$), nor in non-diabetic patients. Diabetic patients with HbA1c greater than or equal to 7% did not have significantly different risk of SSI compared to those with HbA1c less than 7% ($p>0.05$).

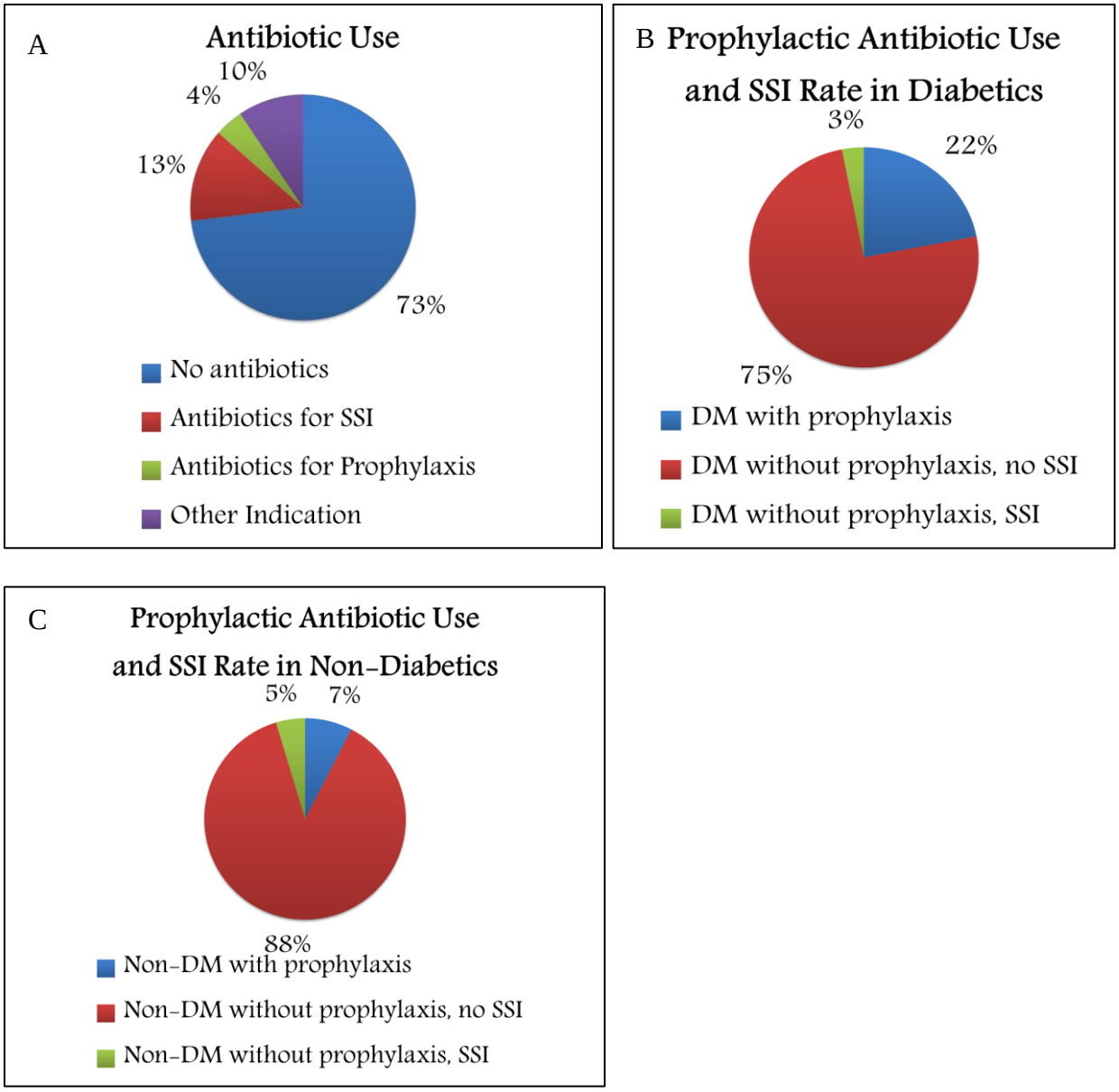

Figure 1. Antibiotic use and SSI rate

Summary: No significant differences were observed in the incidence of SSI following CTR in diabetic versus non-diabetic patients. These observations persisted when patients on prophylactic antibiotics were excluded from statistical analysis. Neither prophylactic antibiotic use nor strict glycemic control in diabetics is associated with a significantly decreased risk of SSI.

Conclusions: Diabetic patients may not be at increased risk of SSI following CTR when compared to non-diabetic patients. Neither prophylactic antibiotics nor strict glycemic control may be warranted to improve the risk of SSI following CTR.

References:

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