Postoperative Oral Antibiotics in Outpatient Foot and Ankle Surgery: Are We Affecting Postoperative Infections or Wound Healing Complications?

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Introduction/Purpose: Postoperative infections after foot and ankle surgery can cause devastating outcomes for patients. Studies of postoperative infection rates in outpatient foot and ankle surgery range from 0.5-6.5%, with increasing numbers found in diabetic patient populations. The use of perioperative antibiotics in the prevention of postoperative infection in outpatient surgery is a topic that has often been discussed yet there remains considerable controversy. The authors hypothesize that there is no difference in postoperative infection rate or wound healing complications in patients who received postoperative oral antibiotics versus those that did not. Additionally, the authors sought to identify patient characteristics associated with postoperative infections or wound complications.

Methods: Retrospective chart review of 649 elective outpatient foot and/or ankle surgery cases over a 2-year period performed by two fellowship trained foot and ankle surgeons at an academic medical center ambulatory surgical unit. All cases were included with at least one follow-up visit and no evidence of chronic wounds or infection. Those cases that did not have adequate follow up or if postoperative antibiotic treatment could not be determined were subsequently excluded. Analysis evaluated patients that received postoperative oral antibiotics (PAB) and those that did not receive postoperative oral antibiotics (NAB) to identify whether a difference in infection rate or wound healing complication were present. Patient demographics, medical comorbidities, BMI, smoking status, and tourniquet time were analyzed to identify contributing factors or comorbidities that may be more prevalent in those that developed postoperative infections in the PAB and NAB groups.

Results: 633 operative cases were included in the study. The average age of patients in the PAB group and NAB group was equal (age 45 ± 17). The number of infections in PAB was 6, while the number of infections in NAB was 10 (3% vs. 2%, p = 0.60). The number of deep versus superficial infections and wound complications between the two groups was not statistically significant. Patients that developed infections versus those that did not were older (average age 55 vs. 45, p = 0.02), demonstrated a higher prevalence of hypertension (44% vs. 17%, p = 0.01), and a history of neoplasm (19% vs. 2%, p < 0.01). No significant difference was found between groups based on BMI, diabetes, tourniquet time, or smoking status.

Conclusion: There are limited studies published on the efficacy of routine postoperative antibiotics in outpatient foot and ankle surgery, despite a majority of surgeons (75%) reporting using postoperative antibiotics.2 The present study suggests there is no benefit to prescribing postoperative oral antibiotics in an outpatient surgery setting. Additionally, older patients, patients with hypertension, and patients with a history of neoplasm made up a larger percentage of patients in the postoperative infection group. BMI, diabetes, tourniquet time and smoking status did not have a significant difference in postoperative infections between the PAB group and NAB group.
Table 2
Differences in infection rate and delay in wound healing in patients given postoperative antibiotics and those who did not receive postoperative antibiotics. Numbers presented as N (%).

|                                | Postoperative Antibiotic (PAB) Group (N = 201) | No Postoperative Antibiotic (NAB) Group (N = 432) | *P-Value |
|--------------------------------|-----------------------------------------------|--------------------------------------------------|----------|
| Postoperative Infection       | 6 (3%)                                        | 10 (2%)                                          | 0.60     |
| Type of Postoperative Infection |                                              |                                                  |          |
| Superficial                   | 5 (83%)                                       | 6 (60%)                                          | 0.60     |
| Deep                          | 1 (17%)                                       | 4 (40%)                                          |          |
| Delay in Wound Healing        | 12 (6%)                                       | 23 (5%)                                          | 0.71     |

* P-Values reported using Fisher’s exact test for categorical variables.