Use of Postoperative Antibiotics in Elective Soft Tissue Hand Surgeries

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Objective: To evaluate prophylactic postoperative antibiotic use in elective soft tissue hand surgeries.

Design: A Retrospective Cohort Study.

Setting: King Hamad University Hospital, Bahrain.

Method: Retrospective review of 309 patients undergoing elective soft tissue hand surgery from 2012 to 2015. One hundred fifty-nine (51.5%) of these patients received postoperative prophylactic antibiotics while 150 (48.5%) did not. The records were reviewed for the type of procedure performed, comorbidities, use of postoperative antibiotics, outpatient visits and associated complications.

Result: One hundred fifty-nine (51.5%) patients (group I) received postoperative prophylactic antibiotics and 150 (48.5%) did not (group II). Four (1.3%) patients had infection (3 from group I and 1 from group II). One (0.3%) patient had deep surgical site infections and 2 (0.6%) patients had superficial surgical site infections, all received postoperative antibiotics. The P-Value obtained was 0.63.

Conclusion: Our study failed to demonstrate a benefit of prescribing prophylactic postoperative antibiotics to patients undergoing elective soft tissue hand surgery. Unwarranted antibiotic administration may pose harm to the patient as gastrointestinal side effects, allergic reactions and/or antimicrobial resistance.


Surgical site infection (SSIs) is the most common cause of hospital-acquired infections, contributing to over one-third of hospital acquired infections. Two to five percent of all patients undergoing surgical interventions each year are predicted to develop SSIs^1,2.

Surgical site infections are defined as “an infection related to an operative procedure that occurs at or near the surgical incision within 30 days of the procedure or 90 days if prothetic material implanted"^3-5. Bratzler et al described a new clinical criterion for defining SSIs^6. The diagnosis is made when one or more of the following is present: a purulent exudate, a positive fluid culture, surgeon’s diagnosis of infection or a surgical site that requires reopening^6.

A wound classification developed over 35 years ago based on the amount of expected microbial contamination is still largely used in clinical practice today^7. Wounds were classified as clean, clean-contaminated, contaminated or dirty. There is a moderate correlation between the wound classification and SSI rates as demonstrated by several studies. Rates varied from 1.3 to 2.9 percent for clean wounds, 2.4 to 7.7 percent for clean-contaminated wounds, 6.4 to 15.2 percent for contaminated wounds, and 7.1 to 40 percent for dirty wounds^8-11. Though easy to apply and utilize, this system has been found to be a poor predictor of the overall risk of SSIs.

Operative technique, the length of surgery, and comorbidities are other important factors for predicting infectious risks. The setup of the healthcare facility is also a determining factor; nonteaching hospitals having the lowest rates of infection compared to small or large teaching hospitals (4.6 versus 6.2 and 8.2 percent, respectively)^12. SSI rates in ambulatory surgery are also relatively low, 0.31 and 0.48 percent at 14 and 30 days postoperatively^13.