



Comorbidities associated with increased likelihood of postoperative surgical site complication in patients treated for hand or finger fracture and/or dislocations

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Introduction

Patient comorbidities are well understood to affect surgical outcomes in many settings.

Our purpose was to determine the relationship between common patient preoperative comorbidities and subsequent incidence of postoperative surgical site complications (SSCs) in a large population of patients being treated for hand and finger fractures and/or dislocations.

Complications include any superficial, deep, organ space infections or wound dehiscence

Methods

Cross-sectional study of consecutive patients reported to the American College of Surgeons (ACS) National Safety and Quality Improvement Program (NSQIP) from January 1, 2015 to December 31, 2019.

Patients were included in our study if they were treated by open or percutaneous fixation for any hand or finger fracture and/or dislocation.

Predictor variables were smoking status, diabetes mellitus status, and obesity (BMI > 30) status. Primary outcome was incidence of postoperative SSI.

Results

N = 9,671

VARIABLES	ODDS RATIO	95% CONFIDENCE INTERVAL	p value
SMOKER	1.45	1.05 - 2.00	.0245
DIABETES MELLITUS	2.33	1.08 - 5.03	.0319
OBESITY	1.40	1.00 - 1.94	.0488

TABLE 1. Odds ratios for dependent variables versus surgical site complications (SSCs) after all surgical fixation procedures (n=9,671). *p value of <0.05 considered statistically significant.

VARIABLES	ODDS RATIO	95% CONFIDENCE INTERVAL	p value
SMOKER	1.23	0.83 - 1.83	.3032
DIABETES MELLITUS	3.11	1.34 - 7.21	.0081
OBESITY	1.45	0.98 - 2.15	.0649

TABLE 2. Odds ratios for dependent variables versus surgical site complications (SSCs) after an open surgical fixation procedure (n=7,443). *p value of <0.05 considered statistically significant.

VARIABLES	ODDS RATIO	95% CONFIDENCE INTERVAL	p value
SMOKER	2.24	1.27 - 3.96	.0056
DIABETES MELLITUS	0.87	0.12 - 6.41	.8898
OBESITY	1.26	0.68 - 2.31	.4644

TABLE 3. Odds ratios for dependent variables versus surgical site complications (SSCs) after a percutaneous surgical fixation procedure (n=2,228). *p value of <0.05 considered statistically significant.

Conclusion

Common American preoperative comorbidities, including smoking status, diabetes mellitus, and obesity, increase the likelihood of postoperative surgical complications in patients with hand and finger fractures and/or dislocations undergoing surgical treatment.

