



Western Surgical Association 2020 Annual Meeting

Monday, November 9, 2020
4:00pm – 6:15pm Pacific Time
– Virtual Meeting --

www.westernsurg.org | wsa@p-etc.com | 913.402.7102

P 1. ORGAN SPACE SURGICAL SITE INFECTION AFTER COLORECTAL SURGERY IN VETERANS

Presenter: Maseray Kamara MD | Wayne State University School of Medicine, Detroit Medical Center

M Kamara, A Shahait, K Girten, K Saleh, D Weaver, S Gruber, G Mostafa

Background: Organ space surgical site infection (OSSSI) is a significant complication in colorectal surgery, with a reported incidence of 8.4% and an 11.5% associated mortality. This study examines the profile and risk of OSSSI following colorectal operations in veterans.

Methods: The Veterans Affairs Surgical Quality Improvement Program was queried for colorectal operations between 2008-2015 and cases of OSSSI were identified. Demographics, clinical/operative details, and postoperative outcome were compared in cases with and without OSSSI using Chi-square test for categorical variables, Student's t-test for continuous variables with parametric distribution, and the Mann-Whitney test for continuous variables with non-parametric distribution. Logistic regression was performed to detect independent predictors of OSSSI. $P < 0.05$ was considered significant.

Results: A total of 28,755 colorectal surgical cases were identified (96.1% male, mean age 65.5, mean BMI 28.1, 14.1% emergent cases, 84% with ASA ≥ 3 , 31.5% current smokers, and 89.2% functionally independent). OSSSI occurred in 1,055 (3.7%). Compared to patients without OSSSI, those with OSSSI were younger (64.3 vs. 65.6, $p < 0.001$) and more likely with ASA class ≥ 3 (86.5% vs. 83.9%, $p = 0.02$); hypoalbuminemic (36.3% vs. 30.1%, $p < 0.001$); active smokers (19.9% vs. 13.7%, $p = 0.001$); functionally dependent (14.6% vs. 10.7%, $p < 0.001$); chronic steroid users (5.1% vs. 3.1%, $p < 0.001$); had recent weight loss $\geq 10\%$ (9.7% vs. 7.6%, $p = 0.011$); and had undergone radiotherapy (5.1% vs. 2.2%, $p < 0.001$). BMI was comparable in both groups (28.1 vs. 27.9, $p = 0.350$). OSSSI patients had significantly more open (79.9% vs. 72.9%, $p < 0.001$) and emergency (19.9% vs. 13.7%, $p < 0.001$) colectomies as well as rectal resections (15.1% vs. 10.8%, $p < 0.001$). In addition, preoperative sepsis (9.1% vs. 5.0%, $p < 0.001$) and intraoperative transfusion (14.8% vs. 9.0%, $p < 0.001$) were more common, with longer operative time (3.6 hr vs. 3.0 hr, $p < 0.001$) and less use of primary anastomosis alone (68.9% vs. 77.9%, $p < 0.001$). OSSSI resulted in significantly more wound dehiscence (10.1% vs. 2.6%, $p < 0.001$), reoperation (48.4% vs. 9.3%, $p < 0.001$), reintubation (11.6% vs. 3.6%, $p < 0.001$), ICU admission (20.5% vs. 5.5%, $p < 0.001$), venous thromboembolism (2.2% vs. 0.7%, $p < 0.001$) and longer length of stay (21.4 days vs. 9.8 days, $p < 0.001$), but with comparable mortality (4.7% vs. 3.9%, $p = 0.214$) when compared with no OSSSI. Primary anastomosis (OR 2.4, $p < 0.001$), preoperative radiotherapy (OR 2.1, $p < 0.001$), dependent



Western Surgical Association 2020 Annual Meeting

Monday, November 9, 2020
4:00pm – 6:15pm Pacific Time
– Virtual Meeting --

www.westernsurg.org | wsa@lp-etc.com | 913.402.7102

functional status (OR 1.4, $p=0.02$), open approach (OR 1.4, $p<0.001$), rectal resection (OR 1.3, $p<0.001$), emergency surgery (OR 1.3, $p=0.032$), and smoking (OR 1.2, $p=0.028$) were all independent predictors of OSSSI.

Conclusion: The incidence of OSSSI and its associated mortality following colorectal surgery in a high-risk veteran population compares favorably with that reported in the private sector. Although not affecting mortality, OSSSI still has a significant adverse effect on postoperative morbidity. The independent predictors of OSSSI, in particular the choice of open versus laparoscopic approach well as the decision to perform a primary anastomosis alone, can be useful in preoperative planning and risk stratification.