

Go See the Patient!

Reflexive fever workup after elective colectomy is of limited utility

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BACKGROUND

- Up to 40% of elective colorectal surgery patients develop postoperative fever.^{1,2}
- A battery of diagnostic tests are often reflexively ordered, but changes in patient management rarely follow.^{3,4}

PURPOSE

- To examine the yield of postoperative fever workups and identify associated factors that would simplify decision-making related to patient selection for testing.
- Secondarily, to determine the rate of postoperative fever in the minimally invasive and enhanced recovery era.

METHODS

- Study Design:** retrospective case-control study
- Setting:** Single institution, MUSC Charleston
- Time:** Jan. 1, 2015 – Dec. 31, 2020
- Patients:** Elective colectomy via CPT code who developed a fever > 38.0 C
- Case vs. Control:** Those found to have clinically significant source of infection to those who did not.

A positive case was defined as an identification of a fever source that required a change in patient management, such as initiation of antibiotics or percutaneous drain placement.

- Statistical Analysis:**

Bivariate: identify factors significantly associated with a clinically meaningful fever source requiring a change in management.

Risk score: p<0.001 on bivariate analysis were combined to create a risk score from 0-3. Multivariable logistic regression to evaluate association of risk score with positive fever eval.

Table 1: Predictors of a Positive Fever Workup

	Total cohort (N=143)	(+) Fever Evaluation (N=27)	(-) Fever Evaluation (N=116)	p value
Active Smoking	41 (28.7)	13 (48.1)	28 (24.1)	0.018
Day of Fever				0.002
0-1	55 (38.5)	4 (14.8)	51 (44)	
2-4	66 (46.2)	14 (51.9)	52 (44.8)	
5+	22 (15.4)	9 (33.3)	13 (11.2)	
Temp ≥ 38.5 °C	60 (42)	22 (81.5)	38 (32.8)	<0.001
SIRS Vitals	77 (53.8)	24 (88.9)	53 (45.7)	<0.001
Localizing symptoms	46 (32.2)	21 (77.8)	25 (21.6)	<0.001

- Risk Score: Covariates in red (Table 1); Values from 0-3.**
 - 2-3 risk factors (vs. 0-1): Odds Ratio for positive evaluation: 41.59 (95% CI: 8.8-197.6).

Risk score 0-1:

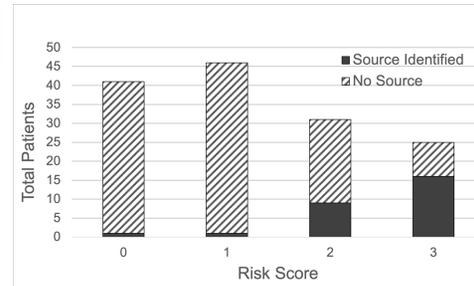
44 fever workups to identify 1 actionable source

Risk score 2-3:

3 fever workups to identify 1 actionable source

RESULTS

Figure 1: Distribution of patients by risk score and presence of identifiable fever source



Overall incidence of postoperative fever:

- Of 1036 elective colectomies, 143 (13.8%) developed fever >38.0 C.

CONCLUSIONS

- The overall incidence of postoperative fever is significantly lower than historic rates, likely reflecting fewer open surgeries.
- Comprehensive “fever workup” is of limited utility in the absence of two or more defined clinical risk factors.
- Selective “fever workup” may decrease resource utilization without compromising healthcare quality.

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