

Surgical Site Infection After Bariatric Surgery: a Small Risk that Defines Life and Death of Patients

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BACKGROUND

Surgical site infection (SSI) in bariatric surgery can lead to devastating outcomes such as peritonitis, sepsis, septic shock and organ space infection. The objective of our study is to answer four questions: a) What is the SSI risk after bariatric surgery? b) What are the risk factors for SSI after bariatric surgery? c) What are the main outcomes to SSI in bariatric surgery? d) What are the main bacteria responsible for SSI in bariatric surgery?

METHODS

A retrospective cohort study between 2014/Jan and 2018/Dec from two hospitals at Belo Horizonte, Brazil. Data were gathered by standardized methods defined by the National Healthcare Safety Network (NHSN)/CDC procedure-associated protocols for routine SSI surveillance. Outcome: SSI, hospital death and total length of hospital stay. 20 preoperative and operative variables were evaluated by univariate and multivariate analysis (logistic regression).

RESULTS

- 8,672 patients undergoing bariatric surgery
- 77 SSI were diagnosed (risk = 0.9% [C.I.95% = 0.7%;1.1%])
- Two main factors associated with SSI after bariatric surgery were identified by logistic regression: duration of procedure (hours), OR = 1.4;p=0.001, and laparoscopy procedure, OR = 0.3;p=0.020.
- Hospital death of infected patients was 4% (3/77; RR = 112; p<0.001)
- Mean hospitalization time 2 Days (without SSI), 7 days (positive cases).
- The majority of SSI (59%) was caused by species of *Streptococcus* (32%), *Klebsiella* (15%), and *Enterobacter* (12%).

DISCUSSION

SSI is rare after bariatric surgery, however, when it happens, it's a disaster for the patient. The incidence of SSI can be reduced significantly when laparoscopy procedure is used, and the surgeon is able to perform a rapid surgery.

Figure 1 – Effect of laparoscopic surgery on the SSI risk in bariatric surgery. Univariate analysis.

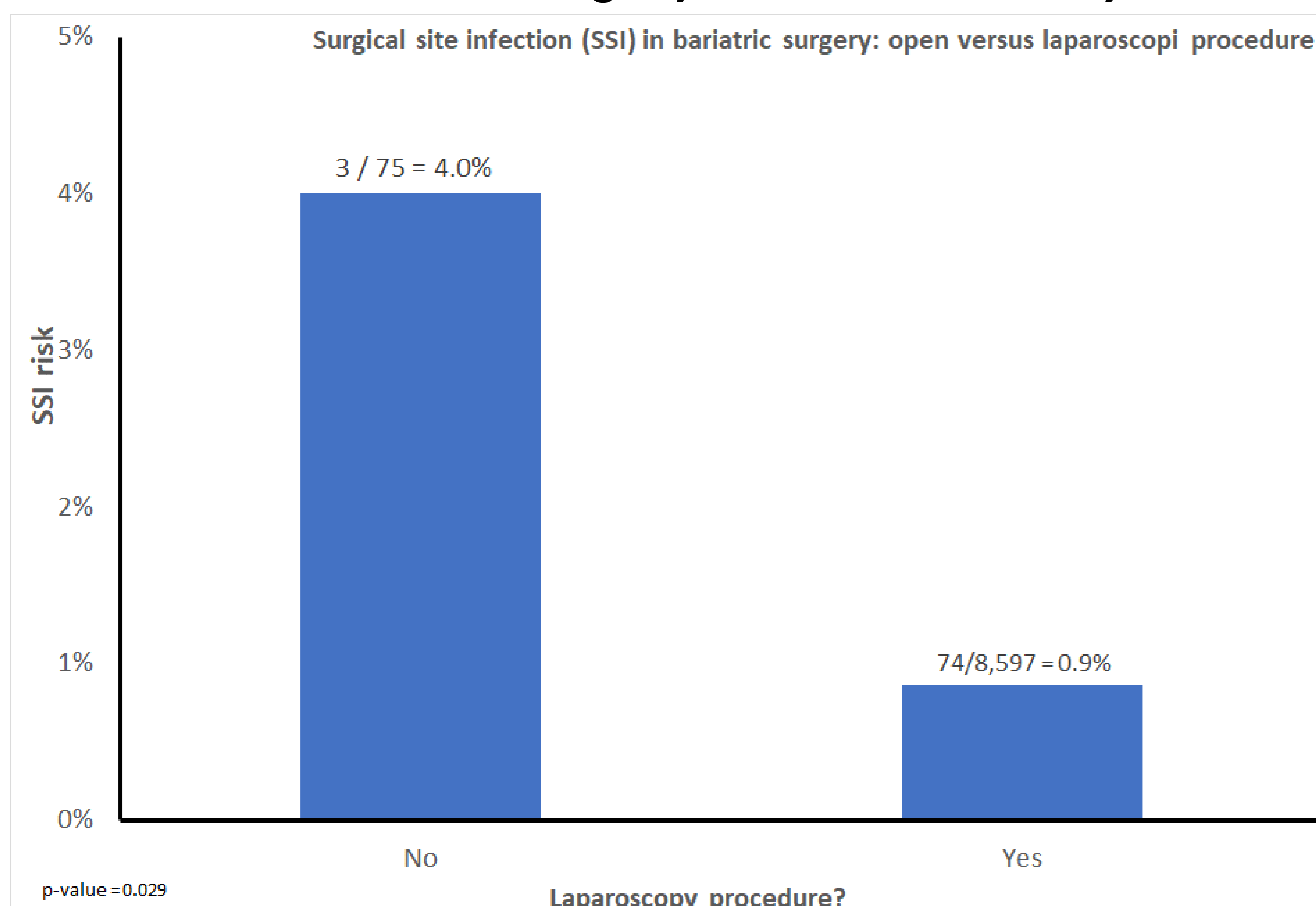


Figure 2 – Etiologic agents of SSI after bariatric surgery.

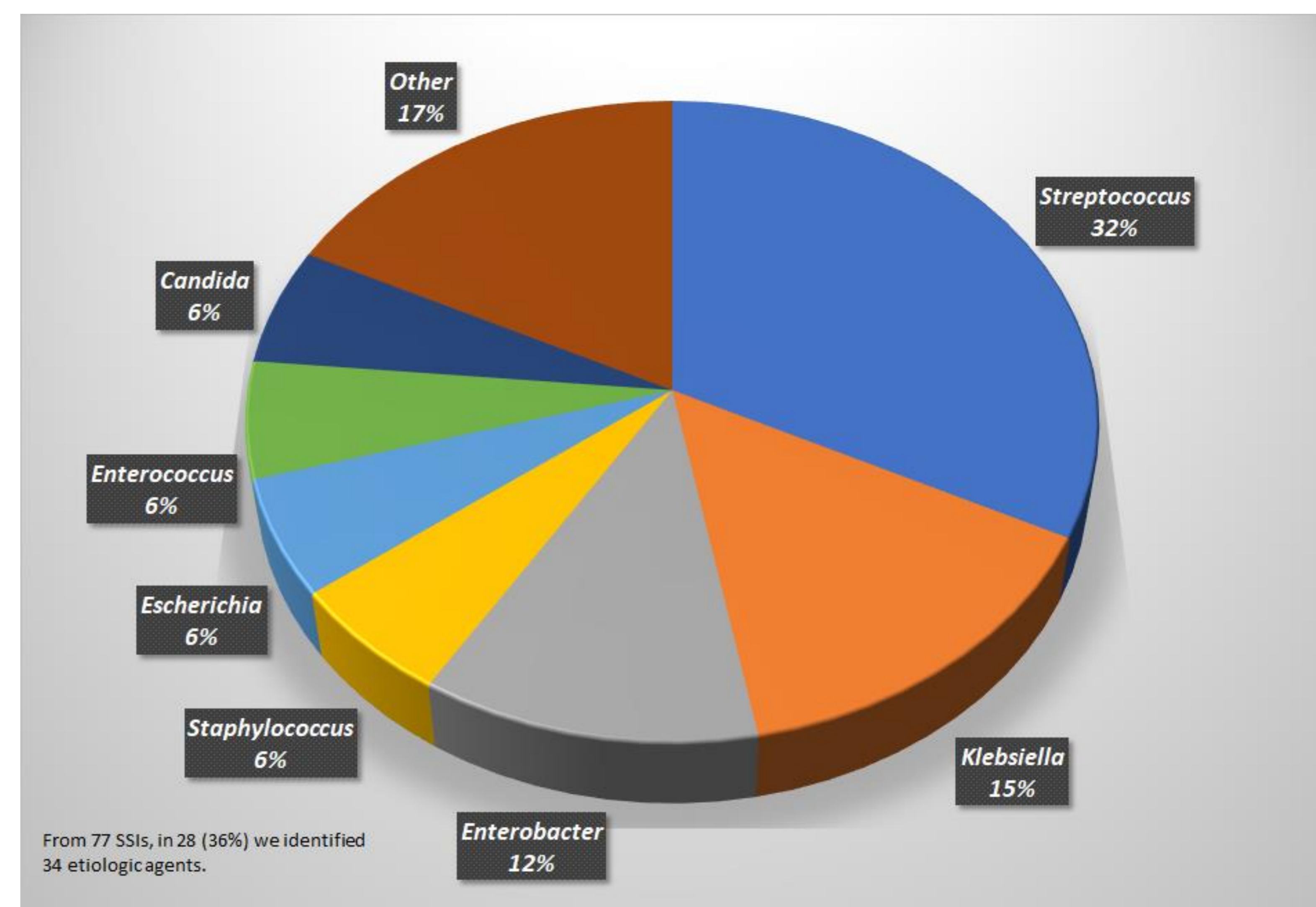


Table 1 – Risk factors for SSI risk after bariatric surgery. Multivariate analysis by logistic regression model.

Variable	Odds Ratio	0,95	C.I.	Coefficient	S. E.	P-Value
Duration of procedure (hours)	1.41	1.15	1.72	0.34	0.102	0.0008
Laparoscopy procedure	0.27	0.08	0.88	-1.32	0.607	0.0295
Constant				-4.25	0.681	

Figure 3 – SSI risk after bariatric surgery: logistic regression model simulation.

