

Institution protocol for surgical site infection reduction using a circular stapling device in laparoscopic Roux-en-Y gastric bypass: A single center retrospective review

Matthew Smith, DO, Sarah Deen, RN, Kimberly Paskiewicz, MPH, RD, LDN, Anthony Luca, PA, Tiffany Turner, MSN FNP-BC, CBN, Orlando Icaza, MD, Adam Reid, MD Southern Illinois University School of Medicine

Introduction

Circular stapled end-to-end (EEA) gastrojejunostomy anastomosis in laparoscopic Roux-en-Y gastric bypass (LRYGB) is a favored technique by many surgeons due to its ease of use and reproducibility. However, the surgical site infection (SSI) rate is too high (4.5%-30%) in comparison with the linear stapler technique (0.6%-6.9%) or hand sewn anastomosis. The objective of this study was to analyze the rate of surgical site infection before and after technical changes were employed at our single institution.

Methods

Patients who underwent LRYGB at Memorial Medical Center in Springfield, IL between January 2015 and May 2019 were separated into pre intervention and post intervention groups with the change in EEA stapler technique in September 2017. The interventions were done in two stages and surgical site infections were defined by MBSAQIP criteria during the first 30 days post operatively.



Interventions

- First stage:**
- intra-abdominal irrigation of the EEA stapler prior to removal
 - surgeon and scrub changing gloves after handling EEA stapler
 - EEA stapler trocar site closed last following irrigation
 - clear communication between surgeon and scrub regarding dirty equipment.
- Second stage:** (started on March 2018)
- adding betadine to the suture pass cone before fascial closure of port sites
 - assess dentition and if needed refer to dentist preoperatively
 - chlorhexidine swish in pre-anesthesia area before surgery.

Results

The pre intervention group was reviewed from January 2015 to September 2017 and trended monthly (Table I). In total 415 LRYGB were performed and the total SSIs were 22. This totals a 5.3% incidence of SSIs in the pre invention group.

The post intervention group was analyzed from September 2017 to May 2019. There were 0 SSIs of the 197 LRYGB done during this time. Similarly, after the second stage of intervention in March 2018 was instituted the SSI rate continued to be 0.

Conclusion

Surgical site infection was significantly reduced by the following interventions listed above with the use of a circular stapler device for the gastrojejunostomy anastomosis during laparoscopic Roux-en-Y gastric bypass surgery. Furthermore, these interventions contributed to significantly lower SSI rates comparable with those seen with utilization of the linear stapler or hand sewn anastomosis technique.

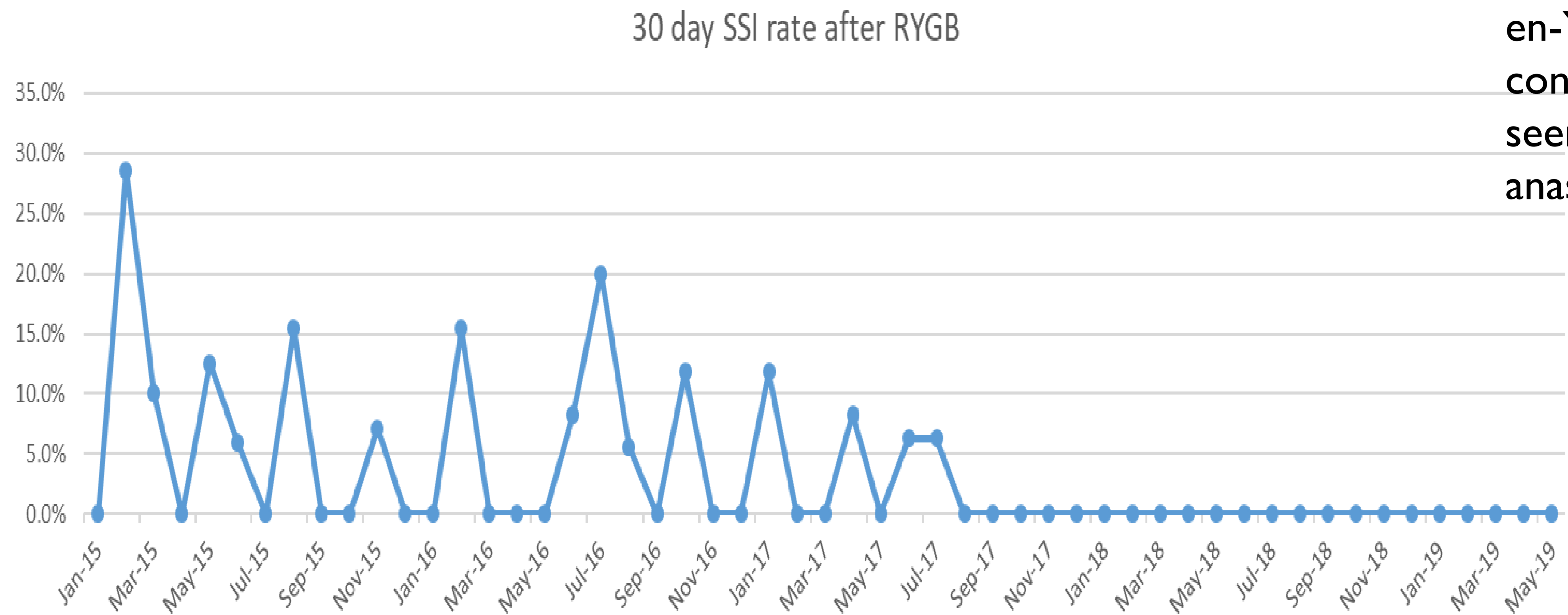


Table I. Percentage of SSI for RYGB separated by month throughout the study length.

