Sleeve Gastrectomy: Will We Ever Find Consensus on Technique?

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Introduction:

Sleeve gastrectomy is the most common bariatric procedure in the United States and there is considerable variation with regards to surgical technique. In 2015, the first analysis of the MBSAQIP was utilized to identify technical parameters (distance from the pylorus, bougie size, and staple line reinforcement (SLR)) that impacted outcomes of sleeve gastrectomy. It was noted further distance from pylorus, no SLR and larger bougie size led to better outcomes. Our objective was to evaluate if there were any shifts or trends in these techniques and if uniformity was gained over time.

Methods:

Using the MBSAQIP data registry from 2015 to 2018, data analyzed year over year for distance from the pylorus (<5cm, ≥5cm), bougie size (<38Fr, or ≥38Fr), and SLR (SLR, oversew, both, or neither). We then used a chi-squared test of association to determine if over time there were significant differences in these parameters from 2015 to 2017.

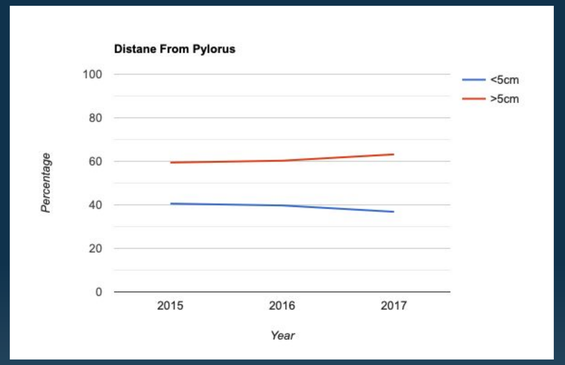


Figure 1 Trend over time of distance from pylorus for first staple line firing (<5cm, ≥5cm)

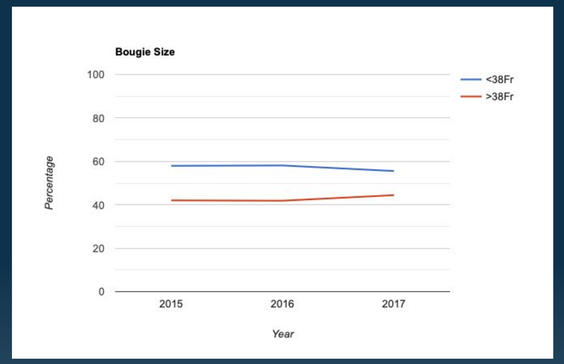


Figure 2 Bougie size (<38Fr, ≥38Fr)



Figure 3 Staple line reinforcement (staple line reinforcement only, oversew only, staple line reinforcement and oversew, no staple line reinforcement)

Results:

From 2015 to 2017, 297,220 laparoscopic sleeve gastrectomies were performed. Sleeve staple lines starting <5cm from the pylorus (Table 1) were 40.57% in 2015, 39.72% in 2016, and 36.82% in 2017. Those ≥5cm were 59.43% in 2015, 60.29% in 2016, and 63.18% in 2017 ($p < 0.001$). For bougie size (Table 2), the percentages <38Fr were 57.96% in 2015, 58.12% in 2016, and 55.56% in 2017. The percentages ≥38Fr were 42.04% in 2015, 41.88% in 2016, and 44.44% in 2017 ($p < 0.001$). For staple line reinforcement (Table 3), the percentages for staple line reinforcement alone were 53.9% in 2015, 54.99% in 2016, and 54.01% in 2017. For oversewing alone, the percentages were 10.61% in 2015, 9.17% in 2016, and 9.32% in 2017. For both staple line reinforcement and oversewing, the percentages were 12.73% in 2015, 13.54% in 2016, and 12.52% in 2017. For no staple line reinforcement, the percentages were 22.76% in 2015, 22.31% in 2016, and 24.15% in 2017 ($p < 0.001$).

Conclusion:

Over time, as more literature becomes available, shifts in surgical technique for laparoscopic sleeve gastrectomy occur, albeit slowly. Surgeons are slow to change technique despite large database analyses. There still remains considerable discrepancy in the optimal technical aspects of sleeve creation. Surgeons should continue to review the available data and make informed decisions with regards to patient care and outcomes.