COMPARABLE OUTCOMES OF ENDOSCOPIC, SURGICAL, AND HYBRID RESECTION OF GASTRIC GIST

Ese Uwagbale, Sharanya Reddy Nemakhallu, Kelechi C. Meremikwu, Chidiebele Omaliko, Swathi Ragagopal, Aftaab Aliahmad, Elizabeth Rimsky, Junxin Shi, Benjamin Silver, Tamta Chkhikvadze

Introduction

Gastrointestinal stromal tumors (GIST) are rare, comprising < 1% of all gastrointestinal tumors, and most commonly arise in the stomach (60%). Surgical resection (SR) has been the mainstay of therapy, however endoscopic resection (ER) is being performed for small lesions, while hybrid resection (HR) can be used for bigger lesions, both becoming a viable alternative to surgery. We aimed to analyze Gastric GIST (G-GIST) management, trends, compare outcomes, and hospital resource utilization between ER, SR, and HR techniques in the USA.

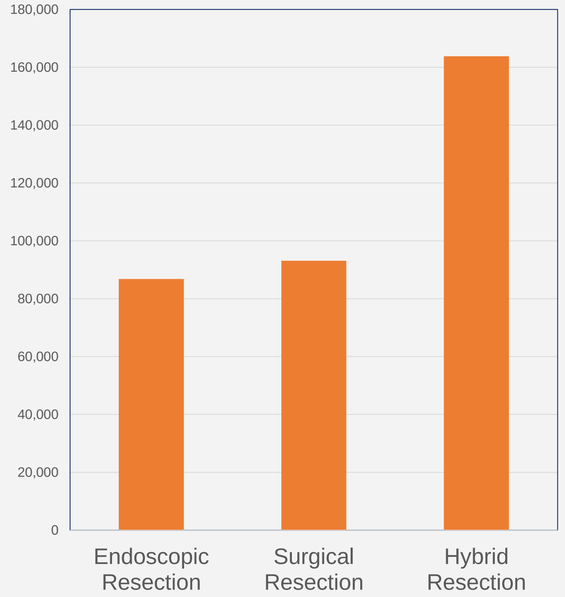
Methods

Using ICD-10 diagnosis code for G-GIST (C49.A2), we extracted adult (>20y) patients' data from Nationwide Inpatient Sample (2017-2019yy). We used the procedure codes for ER (0D568ZZ, 0DB68ZZ, 0DT78ZZ), open and laparoscopic SR(0D564ZZ, 0DB64ZZ, 0DB60ZZ, 0DT74ZZ,0DT70ZZ), and HR (endoscopic and laparoscopic codes combined), and defined technical procedural and systemic complications. Mortality, complications, length of stay (LOS), and hospitalization charges were used as outcomes. Statistical analysis was performed with SAS.

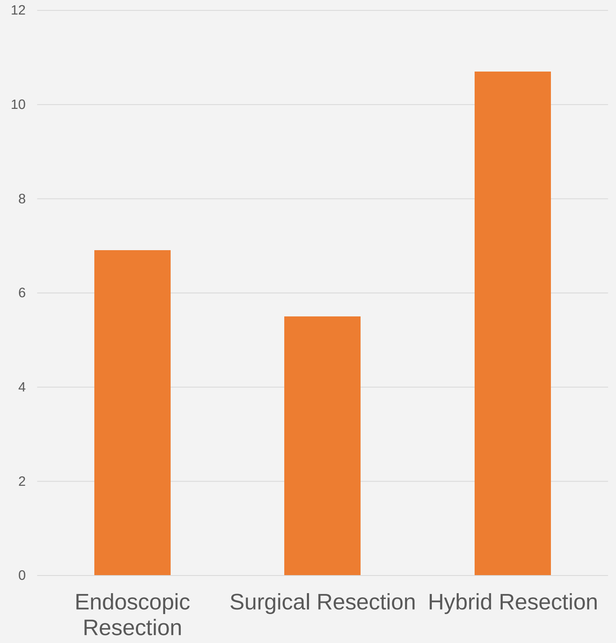
Results

A total of 145 ER, 7875 SR, and 70 HR procedures for G-GIST management was identified. According to different approaches, there was no difference in primary payer types or median household income. There was slight male to female predominance in ER and HR but not in the SR group. Racial disparities were noted in the ER >SR but not in HR (Figure 1). Most procedures were performed in teaching institutions: ER (93%), SR (86%), and HR (86%).

Comparison of mean charges (in USD) among endoscopic, surgical and hybrid GIST resection



Comparison of length of stay (in days) among endoscopic, surgical and hybrid GIST resection



Results

Mortality for SR was 0.8%, and no inpatient deaths were recorded for ER or HR. Mean charges were highest for HR ($163,794) and lowest for ER ($86,811), with LOS highest for HR (10.7d), followed by ER (~7d) and SR (5.5d). More complications were noted in HR (43%, vs. 28% in ER and 18% in SR) (Table 1). Most SR and HR patients were discharged home (94% and 93%, respectively); A lesser percentage of ER (72%) were discharged home with a relatively higher percentage of 28% sent to long-term care facilities compared to SR (5%) and HR (7%).

Conclusion

Minimally invasive management of G-GIST is evolving, with surgery still being most common. Both endoscopic and hybrid techniques are promising alternatives to surgery and show a lower mortality rate, however, with a higher percentage of non-fatal complications (both), increased cost (HR only), and increased LOS (both) compared to SR. Larger studies can help guide providers in choosing the optimal individual approach in G-GIST management.