DOES ROBOTIC BARIATRIC SURGERY REDUCE THE REQUIREMENT FOR A SURGICAL ASSISTANT? AN MBSAQIP ANALYSIS

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Background

- The number of robotic-assisted bariatric cases remains low, primarily due to the increased cost and extended operative time associated with this technology.
- Proponents of robotic surgery suggest that robotic platform eliminates the need for higher level of first assistant.
- Primary objective ☞ to assess whether the use of the robotic platform significantly reduces the necessity for a surgical first assistant (FA).
- Secondary objective ☞ to compare the utilization of skilled surgical assistants.

Methods

- Retrospective analysis of the MBSAQIP PUF from 2015 to 2019 to determine the prevalence of Attending Surgeon involvement in robotic-assisted, LRYGB, and LSG procedures, in comparison to non-physician surgical FAs.
- Cases involving medical trainees (residents and fellows) were excluded.
- For each bariatric procedure, two distinct groups were established and propensity score matching was employed to ensure patient comparability.
- A "good match" was defined when the standardized mean difference (SMD) was less than 0.10.

Results

- 113,682 patients underwent LRYGB, with 12,480 undergoing robotic RYGB (RRYGB).
- After a 1:1 match, attending-level FAs were involved in 25.9% of LRYGB cases, midlevel FAs in 55.6%, and no assistants in 18.5%.
- In contrast, RRYGB cases utilized attending-level FAs in 13.7% of cases, midlevel FAs in 68.4%, and had no assistants in 17.9% of cases (P < 0.0001).
- In LSG, attending-level FAs were present in 28.1% of cases, midlevel FAs in 51.6%, and no assistants in 20.3%.
- In comparison, robotic SG (RSG) cases had attending-level FAs in 16.1%, midlevel FAs in 55.6%, and no assistants in 28.3% of cases (P < 0.0001).

RYGB Level of FA	Pre-Match		Post-Match		
Main Outcome	Lap	Robot	Lap	Robot	p
Assistant Levels					<.0001
Attending	29571 (26%)	1710 (13.7%)	3,232 (25.9%)	1,710 (13.7%)	
Mid-level	63729 (56.1%)	8536 (68.4%)	6,938 (55.6%)	8,536 (68.4%)	
None	20382 (17.9%)	2234 (17.9%)	2,310 (18.5%)	2,234 (17.9%)	

SG Level of FA	Pre-Match		Post-Match		
Main Outcome	Lap	Robot	Lap	Robot	p
Assistant Levels					<0.0001
Attending	96,365 (29.2%)	5,302 (16.1%)	9,256 (28.1%)	5,302 (16.1%)	
Mid-level	167,488 (50.8%)	18,303 (55.6%)	16,979 (51.6%)	18,303 (55.6%)	
None	65,938 (20%)	9,296 (28.3%)	6,666 (20.3%)	9,296 (28.3%)	

Conclusion

- The robotic platform failed to eliminate the need for attending level first assistant in the majority of Bariatric Surgery cases.
- The percentage of cases without an assistant was similar in RYGB, but slightly higher in Robotic Sleeves compared to laparoscopic.

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