65. ROBOTIC VERSUS LAPAROSCOPIC SLEEVE GASTRECTOMY OUTCOMES: A SYSTEMATIC REVIEW AND META-ANALYSES

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BACKGROUND: Among the various bariatric procedures, sleeve gastrectomy is a highly effective intervention for achieving significant and sustained weight loss in morbidly obese patients. In recent years, advancements in surgical techniques have introduced robotic-assisted procedures alongside traditional laparoscopic methods, promising improved precision and outcomes. This meta-analysis was conducted to assess the operative outcomes and complications of these two techniques. **METHODS:** We systematically searched PubMed, Embase, Web of Science, and Cochrane, including systematic reviews, meta-analyses of randomized controlled trials, cohort studies, and case-control studies comparing robotic surgery with laparoscopic procedures in patients located in England, Italy, Japan, USA and Germany. **RESULTS:** 9 studies with 1, 203, 901 adult patients were included in this systematic review and meta-analysis. Overall complications of the laparoscopic group were 1.94 [1.82, 2.06]

(P < 0.00001). The operative time were significantly less in time in the laparoscopic group 28.28 [19.74, 36.82] (P < 0.00001). **CONCLUSION:** This meta-analysis indicates that laparoscopic sleeve gastrectomy is associated with a lower complication rate as well as a shorter operation time.

Figure: Comparative Risk Ratio of Complications: Robotic vs. Laparoscopic Sleeve Gastrectomy Based on Meta-Analysis Data.

Study or Subgroup	Robotic		Laparoscopic			Risk ratio	Risk ratio	
	Events	Total	Events	Total	Weight	M-H, Fixed, 95% C	M-H, Fixed, 95% Cl	
ACEVEDO 2020	114	1757	1777	24647	18.6%	0.90 [0.75 , 1.08	1] •	
FAZI 2019	247	4781	2387	70298	23.9%	1.52 [1.34 , 1.73	a]	
MOON 2016	2	268	1	379	0.1%	2.83 [0.26 , 31.03	B]	
MOON 2020	3	64	1	30	0.1%	1.41 [0.15 , 12.96	i]	
NASSER 2020	222	1077	1291	15935	12.9%	2.54 [2.24 , 2.89	9	
NASSER 2020	662	4685	3627	56808	43.5%	2.21 [2.05 , 2.39	aj 🚽 🗖	
PENNESTRÌ 2022	3	22	0	22	0.0%	7.00 [0.38 , 128.02	2]	
VILLALLONGA 2013	5	100	10	100	0.8%	0.50 [0.18 , 1.41	1	
VILLAMERE 2015	0	957	9	18694	0.1%	1.03 [0.06 , 17.63	I]	
Total (95% CI)		13711		186913	100.0%	1.83 [1.73 , 1.94	9	
Total events:	1258		9103					
Heterogeneity: Chi ² =	121.29, df :	= 8 (P < 0	0.00001); F	² = 93%			0.01 0.1 1 10 100	
Test for overall effect:	Z = 21.25 (P < 0.000	001)				Favours [Robotic] Favours [Laparoscop	
Test for subgroup diffe	rences: No	t applicat	ole					

Key Words: Laparoscopy, Gastrectomy, operation, remote robotics.