Is BMI greater than 50 kg/m 2 a predictor of higher morbidity during doing laparoscopic sleeve gastrectomy ? an Observational Study at King Khalid University Hospital Saudi Arabian experience

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Introduction and rationale

1. Obesity is a **major health issue** that is increasing instantly worldwide, the prevalence of **super morbid obesity is increasing** among the world population
2. The bariatric surgery has been established as the most effective long-term treatment for morbid obesity
3. Super morbid obese [body mass index (BMI) > 50 kg/m2] carries **high morbidity/mortality risks** to patients and during doing their bariatric surgery

Introduction and rationale

4. **Few studies with small numbers** in the English medical literatures has reported the morbidity/mortality of super morbid obese patients during performing laparoscopic sleeve gastrectomy

5. The purpose of this study was to assess operative and post-operative complications, of laparoscopic sleeve gastrectomy, in super-obese and compare it to morbid obese on in King Khalid University Hospital, Saudi Arabia

RESEARCH QUESTION

Does Super obese patients (BMI ≥50 kg/m^2) prone to develop more operative and post-operative complications than morbidly obese during and following laparoscopic sleeve gastrectomy?

Objectives

1. To document the complications related to BMI ≥50 kg/m^{2}of the patient who underwent laparoscopic sleeve gastrectomy in KKUH. And compare the rate of these to obese underwent laparoscopic sleeve gastrectomy surgery in KKUH and then to international report.

2. To determine if BMI ≥50 kg/m^2 is a predictor of higher morbidity after laparoscopic sleeve gastrectomy

Methodology

Prospective bariatric data registry

Personal information:	
Medical record number	
Age	
Gender	
Contact number	
MRP	

Co-morbidities:			
Diabetes Mellitus		Infertility	
Hypertension		Pseudo-tumor cerebri	
Dyslipidemia		Gall stones	
Sleep apnea		Polycystic ovary	
Knee pain		Helicobacter pylori	
Back pain		Hiatus hernia	
Heart burn		Gastro-esophageal reflux disease	
Bronchial asthma		Fatty liver	
Other past medical history			
Other past surgical history			

First visit to the clinic:

- Date
- Height
- Weight
- Body mass index

Admission:

- Admission date
- Admission weight
- Admission Body mass index

Surgery:

- Date of surgery. .....
- Type of surgery.....
- Surgeon name. .....
- Trocars number (.....)
- Length of the surgery. .....

Intra-operative complication:	
Convert to open	
Bleeding	
Intra-abdominal adhesions	
Hypoxia	
Severe bradycardia	
Blood transfusion	
Others	

Recovery room time ( )

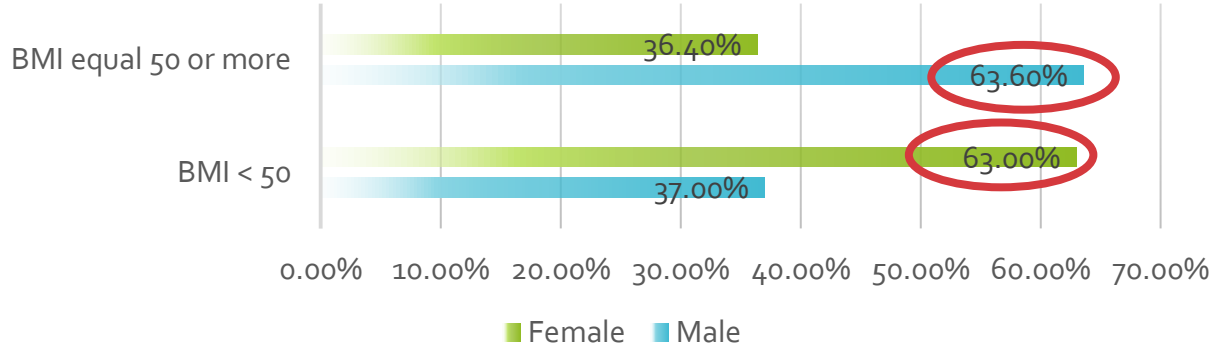
Need of High dependent unit ☐

Post-operative complication:			
Drain		Pulmonary embolism	
Early leak		Fever	
Late leak		Intra-abdominal bleeding	
Nausea		Re-intervention	
Pain		Wound infection	
Deep vein thrombosis		Vomiting	
Others			
Length of stay			

Follow up After surgery (only in first 30 days after discharge) :			
Weight			
Body mass index			
Pain		Lethargy	
Nausea		Postural dizziness	
Vomiting		Reflux	
Constipation		Hair loss	
Others			

Result

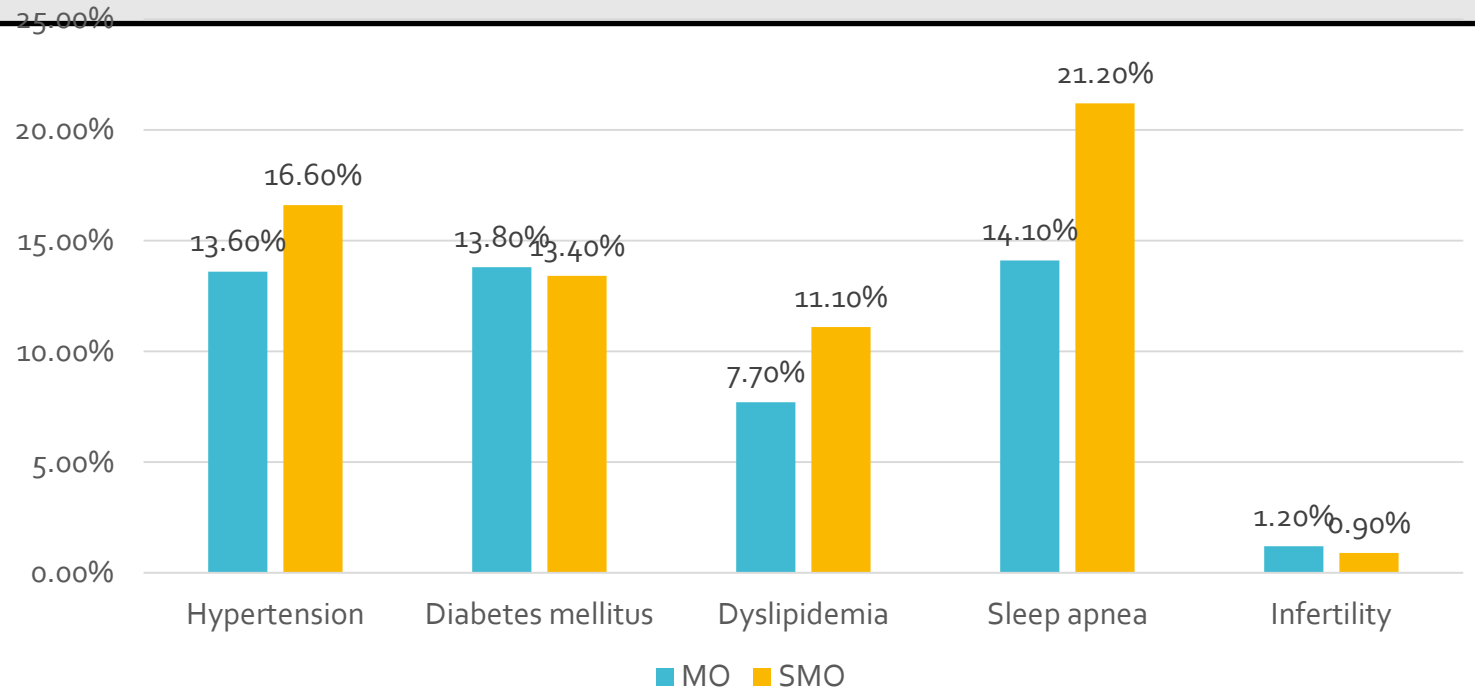
Out Of 708 patients performing LSG, their 217 (31%) patients with BMI ≥ 50 , with comparable BMI (58.3 ± 7.2 kg/m^2 for SMO (BMI ≥ 50) group vs. 41.9 ± 4.7 kg/m^2 for MO (BMI < 50) group; P < 0.0001).



	MO N= 490	SMO N= 217	P-value
Age, mean±SD	33.46±10.7	32.21±11	0.155
Height, mean±SD	1.6±0.096	1.65±0.007	0.500
Admission weight, mean±SD	114.1±19.2	159.40±26.5	P < 0.0001
Admission BMI, mean±SD	41.9±4.7	58.27±7.19	P < 0.0001

Result

	MO N= 491	SMO N= 217	P-value
Hypertension, n (%)	67 (13.6%)	36 (16.6%)	0.306
Diabetes mellitus, n (%)	68 (13.8%)	29(13.4%)	0.863
Dyslipidemia, n (%)	38 (7.7%)	24 (11.1%)	0.150
Sleep apnea, n (%)	69 (14.1%)	48 (21.2%)	0.017
Infertility, n (%)	6 (1.2%)	2 (0.9%)	0.535



Result

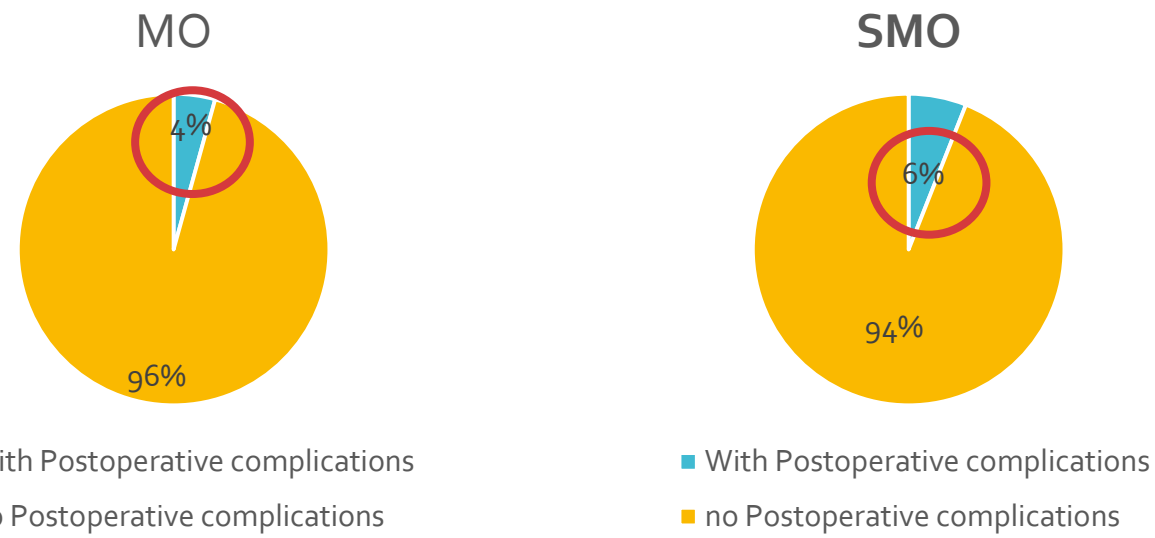
LSG was performed successfully in all patients and **no conversion to open or documented intraoperative complications** in both groups.

	MO BMI < 50 group	SMO BMI ≥ 50 group	P-value
Duration of operation, mean±SD	90.64±38.3	92.74±35	0.53*
Number of trocars, mean±SD	4.60±7.23	4.30±0.68	0.56*
length of stay, mean±SD	3.73±2.54	4.47±3.18	0.003*
Recovery room time, mean±SD	84.39±28.28	87.63±29.11	0.301*
HDU admission, n (%)	32 (6.5%)	62 (28.6%)	P < 0.0001 **

There is no significant difference in the duration of operation, length of stay, Number of trocars, and Recovery room time between the two groups.

Result

	MO BMI < 50 group(21)	SMO BMI ≥ 50 group(13)	P-value
Blood transfusion, n (%)	4 (0.8%)	0 (0%)	0.230 ***
Early leak, n (%)	4 (0.8%)	1 (0.5%)	0.515 ***
Late leak, n (%)	7 (1.4%)	2 (0.9%)	0.445 ***
Post operative bleeding, n (%)	10 (2%)	10 (4.6%)	0.057 **



Conclusion

To sum up, there's no significant difference in the duration of operation , number of trocars and intra operative complication between SMO and MO . The BMI ≥50 is not a predictor of higher morbidity during doing laparoscopic sleeve gastrectomy at King Khalid University Hospital Saudi Arabian experience.

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Thank you,
Any questions?