

## Preliminary Experience of Sleeve Gastrectomy

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### ABSTRACT:

#### BACKGROUND:

Laparoscopic Sleeve gastrectomy (LSG) is the most common restrictive procedure performed worldwide for treatment of morbid obesity.

#### OBJECTIVE:

To assess the safety, effectiveness and complications of LSG performed for Iraqi patients and shows early experience of LSG.

#### METHODS:

Prospective clinical case series study conducted in Al-Jumhoori Teaching Hospital and involved 70 patients (57 females and 13 males); their age (19-59 average 37 years) underwent LSG (6 open, 64 laparoscopically with one conversion); 51 patients finish 1 year follow up.

#### RESULTS:

The initial body weight 70-195 (122 Kg); BMI 31.8-65.9 (50.16 Kg/m<sup>2</sup>); two patients with diabetes mellitus and BMI less than 35 Kg/m<sup>2</sup> involved.

The average weight loss assessed and found to be (13.85, 32.8, 40.8 and 48.3 Kg) in 1st, 3rd, 6th and 12th month interval; The BMI reduced from 50.16 to 35.43 and 29.52 at 6th and 12th months.

We recorded 1 mortality after 10 days (massive pulmonary embolism), 1 case converted to open and minigastric bypass due to narrowing of the sleeve part.

The associated comorbidities improved after weight loss, and the quality of life improved in 88% of patients depending on bariatric analysis and reporting outcome systems (BAROS).

#### CONCLUSION:

Sleeve gastrectomy is relatively safe and effective procedure to decrease weight for morbid obesity and it improves the quality of life, but all bariatric procedures need good health resources and settled countries which were not present in Iraq for the time being.

**KEYWORDS:** laparoscopy, bariatric, sleeve, gastrectomy, obesity.

### INTRODUCTION:

There is an accelerated growth in the practice of bariatric surgery to address the global epidemic of morbid obesity<sup>(1-3)</sup>. In Iraq the ministry of health, directorate of public health and primary health care in collaboration with the world health organization mention in a report of "chronic non-communicable diseases risk factors survey in Iraq 2006" an increased of obesity in Iraq to reach to the W.H.O. definition of obesity, two thirds (66.9%) of the people respondents to the survey were found to be overweight (BMI  $\geq$  25) and nearly one third of the respondents were obese. Obesity was proportionately higher than overweight among female (38.2% Vs. 31.4%), whereas overweight supervened among male (37.4% Vs. 26.2%)<sup>(4)</sup>.

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There is bariatric explosion which occurs due to the poor results obtained with non-surgical treatments, increasing evidence of significant and durable weight loss with surgery, as well as to a wide diffusion over the media and, consequently, an increased patient demand. This exponential growth is also related to the expansion of laparoscopy in the treatment of morbid obesity. The physiologic and clinical benefits of the laparoscopic bariatric surgery over the open approach<sup>(5, 6)</sup> have encouraged physicians to refer morbidly obese patients for surgical treatment, and have motivated more patients to pursue this approach.

Michel Gagner at Mount Sinai Hospital in New York, USA<sup>(7, 8)</sup> first performed laparoscopic SG (LSG) as the restrictive part of BPD-DS in 1999. However, the initial reports on BPD-DS showed an increased morbidity and mortality in male and super-super-obese patients<sup>(9, 10)</sup>. To reduce

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complications and mortality, Gagner and co-workers proposed LSG as the first step of a two-stage laparoscopic BPD-DS (LBPD-DS) in 2000, and later, as the first step of a two-stage laparoscopic roux-en-Y gastric bypass (LRYGB) in 2003<sup>(11)</sup>. Since then, the use of LSG has been extended worldwide<sup>(12-14)</sup> due to its major potential benefits, including its technical simplicity and significant weight-loss outcomes with low rate of complications and mortality.

### OBJECTIVE:

To assess the safety, effectiveness (including weight loss and assessments of comorbidities) and complications of LSG in obese Iraqi patients and the challenge of performing LSG in military conflict regions.

### METHODS:

Prospective clinical case series study conducted in Al-Jumhoori Teaching Hospital in Mosul governorate in Iraq and involved 70 patients (57 females and 13 males); their age (19-59 average 37 years) underwent LSG (6 open, 64 laparoscopically with one conversion); 51 patients finish 1 year follow up and only 7 cases performed after the conflict and fall of the city by ISIS.

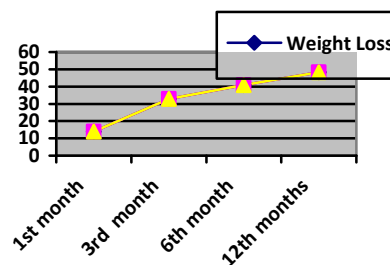
### RESULTS:

The initial body weight 70-195(122Kg); BMI 31.8-65.9 (50.16Kg/m<sup>2</sup>); two patients with diabetes mellitus and BMI less than 35Kg/m<sup>2</sup> involved.

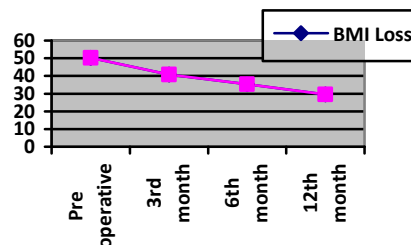
The average weight loss assessed and found to be (13.85, 32.8, 40.8 and 48.3 Kg) in 1<sup>st</sup>, 3<sup>rd</sup>, 6<sup>th</sup> and 12<sup>th</sup> month interval; The BMI reduced from 50.16 to 35.43 and 29.52 at 6<sup>th</sup> and 12<sup>th</sup> months as shown below

**Table 1: Pre- and postoperative weight loss parameters of 70 patients who underwent laparoscopic sleeve gastrectomy.**

Parameter	Pre-operative	Post-operative
B.W(Kg)	70-195(122)	52-123(87)
BMI(Kg/m <sup>2</sup> )	31.8-65.9 (50.16)	29.52
WL(average)	-----	48.3
%EWL(average)	-----	70



**Fig.1.Shows the average weight loss in Kg during 1st, 3rd, 6th and 12th month's interval.**



**Fig.2:Shows the average BMI loss in Kg/m<sup>2</sup> during 3<sup>rd</sup>, 6th and 12<sup>th</sup> month's interval.**

The associated comorbidities improved after weight loss as shown below.

**Table 2: Pre- and postoperative obesity-related comorbidity rates and changes among patients who underwent laparoscopic sleeve gastrectomy**

Comorbidity	Pre operative n.	Resolved	Improved
Knee/hip pain	48	29	19
Hypertension	34	20	14
Dyslipidemia	21	13	8
DM	20	14	6
Obstructive sleep apnea	11	9	2
Depression/anxiety	17	12	5
Hormonal disturbance	11	8	3

The quality of life improved in 88% of patients depending on bariatric analysis and reporting outcome systems (BAROS).

We recorded 1 mortality after 10 days (massive pulmonary embolism in spite of all precautions), 2 cases of intra operative bleeding (controlled by clips), while 1 case of LSG converted to open and minigastric bypass due to narrowing of the sleeve part and 3 cases had simple wound infection.

#### DISCUSSION:

We reviewed the 70 cases that underwent LSG in the same center and by the same team and the overall patient satisfaction with the procedure has been high, even among the patient who had conversion and MGB.

The recorded average weight loss outcomes from LSG in this study were 48.3 Kg which was equal to 70% EWL and these results are better than the early results of Canadian [15] study which shows 38% while our results were comparable with Brethauer and colleagues, <sup>(15)</sup> in which 23 studies including 1639 patients reported data for mean %EWL 55.1% (range 33%–85%). The better results in this study may be related to the operative technique which was well standardized, also some studies have small number of patients (34 patients in the Canadian study).

In addition to weight loss, reduction in obesity-related comorbidities is another important outcome in bariatric surgery and we recorded resolution of DM in 70 % which was comparable with the Canadian early experience 74% <sup>(15)</sup> and better than literature 55.7% <sup>(16)</sup> ( 754 patients, 10 studies) while hypertension resolved in 58.8% and again better than other literature which was 49.6% (733 patients, 9 studies); Dyslipidemia resolved in 61.9% which was much better than studies 43.0% (513 patients, 6 studies) these better results can be explained by our small sample. The 81.8% resolution rate of OSA in our patient population was consistent with results reported in the literature 76%.

We also found a high rate of subjective improvement in joint pain and mood, suggesting an improvement in quality of life and we depend on BAROS system that shows improvement of quality of life in 88%.

#### CONCLUSION:

Sleeve gastrectomy is relatively safe and effective procedure to decrease weight for morbid obesity and it improves the quality of life, but all bariatric procedures needs good health resources and settled countries which were not present in Iraq for the time being.

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