



Bariatric Surgery is Your Way to Virility

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ABSTRACT:

BACKGROUND:

Obesity responsible for many diseases and regarded as an independent risk factor for having erectile dysfunction (ED).

OBJECTIVE:

To assess the effect of weight loss after laparoscopic sleeve gastrectomy (LSG) on ED.

PATIENTS AND METHODS:

A retrospective review of 22 cases referred by urological and infertility clinic to the National Center of Obesity suffering from obesity and ED; who have undergone LSG. Primary follow-up was for weight loss and assessment of international index of erectile dysfunction (IIED).

RESULTS:

22 consecutive male patients, mean age 39 ± 7.9 included in this study; their mean BMI 49.7 ± 5.8 kg/m² with mean IIED score of 28.1 ± 5.6 . Three months after LSG percentile excess weight loss was 31 ± 9 with statistically significant improvement in their IIED 33.3 ± 6.1 (p value < 0.0001). After 6-12 months percentile excess weight loss was 70 ± 17 kg/m² with significant improvement in IIED 55.4 ± 10.6 (p value < 0.0001). The scatter plot and linear regression show a linear relation between weight loss and IIED.

CONCLUSION:

ED improved after weight loss in LSG with direct relationship to the degree of weight loss and the more weight loss the more improvement in virility.

KEYWORDS: Obesity, weight loss, erectile dysfunction, virility.

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INTRODUCTION:

There is increased incidence of obesity all over the world including Iraq and about 33-34% of Iraqi people suffer from obesity^(1,2,3); obesity can cause many problems including erectile dysfunction (ED)⁽⁴⁾.

Male obesity associated hypogonadism is a well-known sequel of obesity and can manifest as testosterone deficiency, sperm abnormality and erectile dysfunction⁽⁵⁾ that reduces the life quality for the patients themselves and for their partners⁽⁶⁾. The severity of ED is measured by the international index of erectile dysfunction IIED⁽⁷⁾ and weight loss is a proven treatment for erectile dysfunction⁽⁸⁾.

Laparoscopic sleeve gastrectomy is the commonest surgical treatment performed around the world as it is effective, safe, and relatively simple⁽⁹⁾. We performed this work to assess the impact of

weight loss for patients after undergoing LSG on ED in our population.

PATIENTS AND METHODS:

24 consecutive male patients referred from urological and infertility clinic to the National Center of Obesity during a period from March 2018 to June 2020 complaining from obesity and ED; they had LSG and follow up for weight loss and assessment of international index of erectile dysfunction (IIED) was done by filling the questionnaire according to the guideline⁽¹⁰⁾.

Two patients excluded from the study due to loss of follow up.

All patients who participated accepted to answer the questionnaire with the surgeon's help (before surgery, after surgery at 3 months with last at 6-12 months).

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All data were analyzed and compared with their data before surgery using Microsoft Excel and graphpad calculator for statistical analysis.

Statistical analysis:

Detailed characteristics were explicated in tables. Means and standard deviations were conveyed for continuous variables and percentages for categorical variables. Student's *t*-test and *p* value

were used to show the associations, where appropriate, with a significance threshold of 5%, using Graphpad and Microsoft Excel calculator

RESULTS:

22 consecutive male patients aged 39 ± 7.9 years included in this study; their BMI 49.7 ± 5.8 kg/m²; the demographic distribution shown in table 1

Table 1: Demographic distribution of the sample.

	Range	Mean \pm SD
Age	27-62	39 ± 7.9
Weight (Kg)	119.5-190.2	146.7 ± 19.1
Height(cm)	163-179	171 ± 4.1
BMI(Kg/m ²)	40.3-65.8	49.7 ± 5.8
IW	66.4- 80.1	73 ± 3.5
EW	45.5-117.9	72 ± 17.9

with IIED score of 28.1 ± 5.6 . In the first 3 months after LSG patients lost 31 ± 9 percent excess weight loss (%EWL); with statistically significant

improvement in their IIED 33.3 ± 6.1 (*p* value < 0.0001).

Table 2: Weight loss and IIED in different interval.

	Excess weight before surgery	Weight loss 3 months	%EWL in 3 months	Weight loss 6-12 months	%EWL in 6-12 months
	45.5-117.9(72.9 ± 17.9)	11-32(22.4 ± 5.8)	17-50(31 ± 9)	28-75(49.9 ± 12.6)	41-97(70 ± 17)
IIED	14-37(28.1 ± 5.6)	12-41(33.3 ± 6.1)	25-75(55.4 ± 10.6)		

After 6-12 months they lost 70 ± 17 kg/m² with significant improvement in IIED 55.4 ± 10.6 (*p* value < 0.0001).

The scatter plot and linear regression show a direct relation between weight loss and IIED as shown in figure 1 and 2 below.

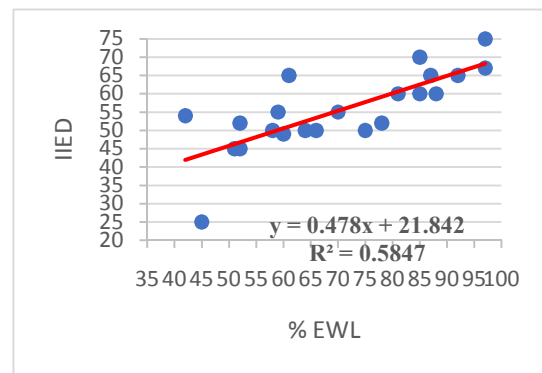
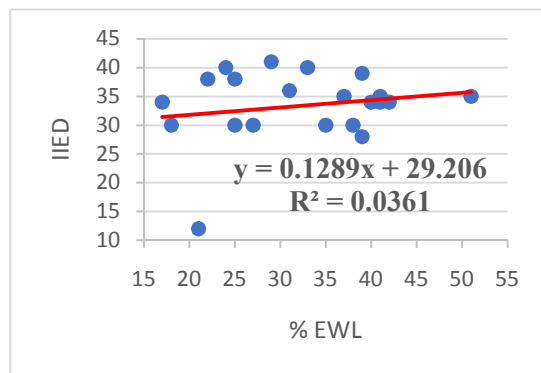


Figure 1and 2: Shows the relation between weight loss and IIED score.

There are 5 domains in IIED score, and all

improved after sleeve gastrectomy as shown in table 3 and figure 3

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Table 3: IIED and all domains during different interval.

	IIED Min-max (mean \pm SD)	Erectile function Min-max (mean \pm SD)	Orgasmic Function Min-max (mean \pm SD)	Sexual Desire Min-max (mean \pm SD)	Intercourse Satisfaction Min-max (mean \pm SD)	Overall Satisfaction Min-max (mean \pm SD)
Before surgery	14-37 (28 \pm 5.6)	7-18 (12.4 \pm 2.50)	1-7 (4.6 \pm 1.4)	2-7 (4.7 \pm 1.08)	1-6 (3.5 \pm 1.18)	2-5 (2.8 \pm 1.08)
3 Months	12-41 (33.3 \pm 6.1)	5-21 (15.9 \pm 3.2)	1-8 (5.3 \pm 1.3)	2-7 (5.2 \pm 1.1)	2-6 (4 \pm 1.07)	2-5 (3.09 \pm 1.06)
6-12 Months	25-75 (55.4 \pm 10.6)	13-30 (24.7 \pm 3.6)	2-10 (6.9 \pm 1.3)	3-10 (6.9 \pm 1.3)	4-15 (8.7 \pm 4.2)	3-10 (7.2 \pm 1.9)

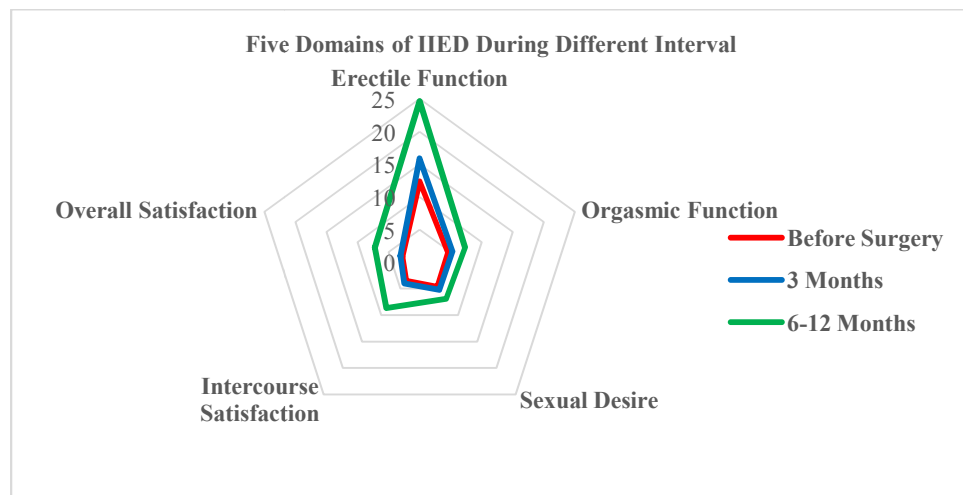


Figure 3: The changes in domain of IIED during weight loss.

The associated medical diseases with obesity

improved after sleeve gastrectomy and weight loss as shown in figure 4.

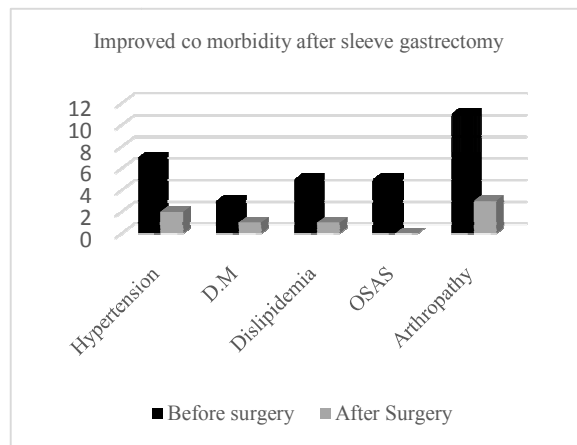


Figure 4

DISCUSSION:

Laparoscopic sleeve gastrectomy is the most frequently conducted bariatric procedure worldwide, nevertheless little data available on its effect on erectile function although weight loss by any mean may improve erectile function this study specifically studied the influence of sleeve gastrectomy on erectile performance.

The patients' age in this study 39 ± 7.9 years with a range 27-62 correlated with BMI 49.7 ± 5.8 kg/m² they referred from urology clinic with IIED score of 28 ± 5.6 .

Losing weight was accompanied by an improvement in IIED and the more the weight loss the better improvement in IIED was. This improvement was statistically significant while sarwer et al. study of 35 men who underwent Roux-en-Y gastric bypass found no significant change in sexual function from baseline, with the exception of overall satisfaction. This is likely due to the inclusion of elderly patients in the study. (49 years and 11 out of 35 were diabetic) ⁽¹¹⁾. Goitein et al. reported improvement in IIED parameter in particular (overall satisfaction), but this improvement was not statistically significant ⁽¹²⁾.

On the other hand, Efthymious et al., Aleid et al., Mora et al, Li et al. and Groutz et al found significant improvement in ED after bariatric surgery ^(13,14,15,16,17).

This study shows improvement in all five domains which is the same finding of Dallal et al., on gastric bypass surgery ⁽¹⁸⁾, while Ranasinghe et al. investigated the impact of weight loss following laparoscopic adjustable gastric banding on sexual function in 20 obese men. The IIEF score improved substantially after surgery, while the erectile index and orgasmic function declined ⁽¹⁹⁾. Araujo et al. examined the effects of Fobi-Capella gastroplasty on the content of a man's sexual life and found postoperative improvements in sexual function ⁽²⁰⁾.

In the first 3 months after LSG ,EWL was 31% while the IIED was 33 (p value < 0.0001), and these early results were comparable to Fatih et al, who demonstrated the improvement starting from the first month ⁽²¹⁾, while Sarhan et al and Hossam S et al reported improvement in all domains after 1 year ^(22,23).

According to high level of evidence meta analysis shows improvement in erectile function after bariatric procedure ^(24,25).

The improvement of erectile function after sleeve gastrectomy may be related to improvement of metabolic state, better glycemic control ,hypertension and improvement of dyslipidemia

Finally, we have to mention that each bariatric procedure has different mechanism of action and that most of the studies mentioned above evaluate data of different procedures while the result of this study considering patients with laparoscopic sleeve gastrectomy only and these results are comparable with Ahmed fahmy et al ⁽²⁶⁾.

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REFERENCES:

1. *Overweight and Obesity among Adults in Iraq: Prevalence and Correlates from a National Survey in 2015.* Supa Pengpid, Karl Peltzer. s.l.: International Journal of environmental research and public health, 2021; 18:4198.
2. *Obesity among females in Al-Sader city Baghdad, Iraq.* Jasim HM, Abdul Hussein HM, Al-Kaseer EA. 2, s.l.: urnal of the Faculty of Medicine -Baghdad, 2018;60:105-7.
3. *Preliminary Experience of Sleeve Gastrectomy.* A.Al-Sharbaty, Muthanna, F.Zidan, Yasser and al., Samir I. Al-Saffar et. 3, s.l.: Iraqi Postgraduate Medical Journal, 2016;15:350-53.
4. *Erectile Dysfunction.* . Rew KT, Heidelbaugh JJ. 10, s.l.: Am Fam Physician., 2016; 94:820-27.
5. *Obesity, male reproductive function and bariatric surgery.* . Di Vincenzo A, Busetto L, Vettor R, Rossato M. s.l.: Front Endocrinol, 2018;9:769.
6. *Current diagnosis and management of erectile dysfunction.* McMahon, Christopher G. 10, s.l.: Med J Aust, 2019;210:469-76.
7. *Development and evaluation of an abridged, 5-item version of the International Index of Erectile Function (IIEF-5) as a diagnostic tool*

- for erectile dysfunction. **RC Rosen, JC Cappelleri, Smith, et al.** s.l.: international journal of impotence research, 2000;11:319-26.
8. *SOP conservative (medical and mechanical) treatment of erectile dysfunction.* **Hartmut Porst, Arthur Burnett, Gerald Brock, et al.** 1, s.l.: J.Sex.Med., 2013; 10:130-71.
9. *Laparoscopic Vertical Sleeve Gastrectomy.* **Kevin Climaco, Eric Ahnfeldt.** 2, s.l.: Surg Clin North Am, 2021;101:177-88.
10. *The International Index of Erectile Function (IIEF): A multidimensional scale for assessment of erectile dysfunction.* **Rosen R, Riley, Wagner G, et al.** s.l.: Urology, 1997;49:822-30.
11. *Sexual functioning and sex hormones in persons with extreme obesity and seeking surgical and nonsurgical weight loss.* **Sarwer DB, Spitzer JC, Wadden TA, et al.** 6, s.l.: Surg Obes Relat Dis., 2013; 9: 997-1007.
12. *Bariatric surgery improves sexual function in obese patients.* **Goitein D ZA, Segev L.** 17, s.l.: Isr Med Assoc J, 2015;10:616.
13. *The effect of bariatric surgery on patient HRQOL and sexual health during a 1-year postoperative period.* **Efthymiou V, Hyphantis T, Karaivazoglou K, et al.** 2, s.l.: Obes Surg, 2015; 25: 310-18.
14. *Early effect of bariatric surgery on urogenital function in morbidly obese men.* **Aleid M, Muneer A, Renshaw S, et al.** 2, s.l.: J Sex Med., 2017;14:205-14.
15. *Weight loss is a major contributor to improved sexual function after bariatric surgery.* **Mora M, Aranda GB, de Hollanda A, et al.** 9, s.l.: Surg Endosc., 2013;27: 3197-204.
16. *Significant improvement of erectile function after roux-en-Y gastric bypass surgery in obese Chinese men with erectile dysfunction.* **Kun L, Pin Z, Jianzhong D, et al.** 5, s.l.: Obes Surg., 2015;25:838-43.
17. *Effects of bariatric surgery on male lower urinary tract symptoms and sexual function.* **Groutz A, Gordon D, Schachter P, et al.** 3, s.l.: Neurourol Urodyn., 2017;36: 636-39.
18. *Sexual dysfunction is common in the morbidly obese male and improves after gastric bypass surgery.* **Dallal RM, Chernoff A, O'Leary MP, et al.** 6, s.l.: J Am Coll Surg., 2008; 207:859.
19. *Effects of bariatric surgery on urinary and sexual function.* **Ranasinghe WK, Wright T, Attia J, et al.** 1, s.l.: BJU Int., 2011;107: :88-94.
20. *Changes the sexual quality of life of the obes submitted Fobi-Capella gastroplasty surgery.* **Araujo AABA, Ferreira Mde N.** 36, s.l.: Rev Col Bras Cir., 2009;1:42-48.
21. *Early Effect of Metabolic Surgery on Erectile Function and Ejaculation:a Pilot Study of Obese Men with Type 2 Diabetes Mellitus.* **Fatih Can Karaca, Tuncay Taş.** 12, s.l.: Obesity Surgery, 2020;30: 4768-73.
22. *Impact of Bariatric Surgery on Male Sexual Health:a Prospective Study.* **Sarhan MD, Khattab M, Maurice KK, et al.** 9, s.l.: Obes Surg., 2021;31:4064-69.
23. *Male sexual function after weight-loss surgeries in a group of Saudi population.* **Hossam S. El-Tholoth, Abdalattif K. Bedaiwi, Abdulrahman Binjawhar, et al.** 2, s.l.: Urol Ann., 2021;13:125-29.
24. *What Is the Impact of Bariatric Surgery on Erectile Function?A Systematic Review and Meta-Analysis.* **Glina FPA, de Freitas Barboza JW, Nunes VM, et al.** 3, s.l.: Sex Med Rev., 2017;5:393-402.
25. *The relationships between bariatric surgery and sexual function: current evidence based medicine.* **Shengzhuo Liu, Dehong Cao, Zhengju Ren, et al.** 1, s.l.: BMC Urol, 2020; 20: 150.
26. *Impact of Bariatric Surgery on Sexual Dysfunction in Obese Men.* **Ahmed Fahmy, Hussien Abdeldaiem, Mohamed Abdelsattar, et al.** 2, s.l.: Sex Med., 2021; 9:100322.