

Sleeve gastric resection, rate of weight reduction, common early and late complications in GIT center of south of Iraq

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ABSTRACT

Background: Laparoscopic sleeve gastric resection operations increase in last years and become most popular procedure for decreasing the weight for patients complaining from morbid obesity. The aim of our study is to know the most common early and late complications that may occur in this type of surgery.

Methods: a study was done in GIT center in Al- Nassiryia city 360 K.M south of Iraq through 3 years 20/1/2015 till 19/1/2018 on 56 patients, prospective study review and analysis was done after follow up post operatively for 3 years of our patients who done for them LSG, we records the rate of weight reductions in the every 3 months for the first post operative year followed the second and third postoperative year. in additions we records the complications that happened for our patients.

Results: 56 patients who had done for them laparoscopic sleeve gastric resection (LSG) for morbid obesity (body mass index more than 40). 45 patients females (80.4%) and 11 males (19.6%). All of the female patients were decrease in the weight at first 3 months about 20—30 k.g then the weight loss rate were become less, about 9 -12 kg at 2nd 3 month post operatively, then 8 to 7 kg in 3rd 3 months and in last 3 months they lost about 5-7 k.g. the rate of decreasing weight in males is faster than the females mostly due to more activities, the weight lost in males at first 3 months about 22---34 k.g then about 10.5—13.3kg at 2nd 3 months post operatively, then 9 to 7.6 kg in 3rd 3 months and in last 3 months they lost about 6-7.5 k.g. most common early complications were occur in our patients, repeated vomiting (85.7%) of patients, loss of appetite (92%), upper abdominal pain (57.1%), chest infection (10.7%), bleeding at the staple line (37.8%), hair loss (42.8%), vitamins deficiency symptoms as zinc and vitamin E (12.5%) in spite of oral supplements, UTI (24%), renal impairments 5.3%, one case were dead at tenth post-operative day due to leakage and end with peritonitis, sepsis and septic shock. while the common late complications were skin laxity and redundant of the skin, multiple gall stones 6 cases (10.7%), weight regain after one year 12% due to removed less than 75% of stomach and due to dietary intolerance.

Conclusions: sleeve gastrectomy is a simple operation in hand experience in laparoscopic surgery, it give very good results in treatments of morbid obesity, decreasing in the weight mostly occur in the first 3 months. Regain of weight may occur after first postoperative year. the main early complications can be prevented or decreased in incidence with good follow up. Cholecystectomy must be done with LSR to prevent additional laparoscopic cholecystectomy due to gall stones which may occur with the time after LSR.

Keywords: sleeve gastrectomy, rate of weight loss, complications.

INTRODUCTION

The stomach is a remarkable organ with important digestive, nutritional, and endocrine functions. the stomach stores and facilitates the digestion and absorption of ingested food, and it helps regulate appetite [1]. obesity is the second leading cause of preventable death in the united states, currently outdone only by smoking, obesity is a disease and is likely multifactorial in its origin [2]. the degrees of obesity are defined by body mass index (BMI = weight [kg]/height [m]²), [1] SG is a fairly simple technical

operation, amenable to performance by many surgeons. the results of the operation for weight loss have been excellent and dramatic. however, the mechanisms of the resolution of co morbidities, such as diabetes, are still not totally clear [3]. LSG result in significant increases in circulating bile acids which bind to the farsenoid-X receptor (FXR), therapy regulating metabolism, while weight loss alone may provide the majority of the physiologic changes that improve co morbid problems such as diabetes and hypertension, it is also possible that other

factors may be involved [4]. certainly SG, through gastric resection, eliminates much of the ghrelin-producing portion of the stomach. the resolution of type 2 diabetes after SG is remarkable [5].the types of commonly performed bariatric operations by mechanism of action are; primarily restrictive laparoscopic adjustable gastric banding (lagb) sleeve gastrectomy (sg) [6]. primarily malabsorptive biliopancreatic diversion (bpd) duodenal switch (ds) combination roux-en-y gastric bypass (rygb) [6]. gastrectomy (sg) has enjoyed a rapid increase in popularity both in the united states and internationally since 2008. laparoscopic sleeve gastrectomy has taken the bariatric surgical scene by storm over the past 5 to 10 years [7] , it is rapidly increasing in popularity, in some countries and areas, the most popular bariatric and metabolic operation performed [7] , its rapid rise in popularity coupled with good initial results suggest that it will be a major component of patient care for the treatment of morbid obesity and its comorbid medical problems for years to come in the future [8]. in the united states, the incidence of performing sg has risen rapidly [9]. the incidence of sg is increasing at a rate that suggests that within the next 2 years it may pass lrygb as the most popular bariatric operation performed in the united states [10,11] in europe, the past few years have seen a clear trend away from performing lagb and a higher incidence of performing both sg and lrygb [12].

PATIENTS AND METHOD

A prospective study review and analysis was carried in south of Iraq in which LSG are become popular ,it helpful to find the result of weight loss and the early ,late complications, this study was done in GIT center in al nassiryia city south of Iraq ,this center is multidisciplinary in nature, using data collection from patients who had LSG, we select the patients who are morbid obesity (BMI>40 kg/m²).main hospital stay was 3.5 (rang 2-20 days) main operative time 96 minets , no case were converted to laparotomy. we started with general investigations to discover any co morbid, undiscovered diseases, gastroscopy was done , we excluded patients who have long standing severe GERD because they are not be good candidates for SG also barrett's esophagus is considered a relative contraindication for performing sleeve, since the potential for future esophagotomy and the need for an available intact stomach for reconstruction outweigh the potential advantages of the procedure. after we explained to the patients and their relative why ,when ,where and who we do the operation , explained the complications that

may occur intraoperative and postoperatively, the postoperative lifestyle changes , postoperative care and follow-up also explained to the patients after that we take the informed concept . LSG usually is performed with an overnight stay of 2 to 3 nights after surgery. longer hospitalizations are indicated for 7 patients who are with more severe medical problems. And 2 patients who were got leaking complication, absence of signs of bleeding and a documented intact staple line with good gastric emptying are required prior to discharge we give vitamin B12. iron , vitamin D supplementation with high protein diet to maintain lean body mass. routine multivitamins are usually prescribed to avert any potential other shortages from dietary vagaries. we start to check BMI each 3 months months postoperatively for 3 years, with recording any early and late complications.

RESULTS

A total 56 LSG were done LSG in GIT center in the south of Iraq ,all patients underwent LSG by the same surgeon for treatments of morbid obesity .80.4 % were females (45 patients) , 19.6% were males (11 patients). we were got a good results for weight reduction in those patients mainly in first 3 months post operatively about 40-50 kg were lost in females while 45-53 k.g in males then about 20—24 kg were lost in next 3 months in males 22-28 k.g, then 17-19 kg in 3rd 3 months in females while males 18-20 k.g and 9-11 k.g in last 3 months of first year in female and in males 11-13 k.g. in a rate of 75-88 kg were lost in the first year then weight loss become insignificant in second and 3rd year in both sex. about the early complications 85.7% of patients (48 patients) got repeated vomiting post operatively , 57.1% (32 patients) got upper abdominal pain, 10.7% (6 patients) got chest infections , 37.5% (21 patients) got bleeding from stapler line , 42.8% (24 patients) got hair loss and 12.5% (17 patients) got some vitamins deficiency syndrome in spite of oral supplements. 3.6% leakage (2 patient) , UTI (24%) ,renal impairments 5.3% (3 patients) . one patient from those who were leak get peritonitis and septicemia then septic shock and death at 10th post-operative day , while late complication is reddened and laxity of skin in most of patients and they need plastic surgery for corrections. and weight regain after one year 7 cases (12.5)% due to remove less than 75% of stomach and due to dietary intolerance. multiple gall stones 6 cases (10.7%).

DISCUSSION

the main aim of our study is to assess the safety of LSG as a primary bariatric operation .LSG has taken popularity in last years because of simple procedure in experience laparoscopic hands and low rate of complications [14-16].sleeve resection operation for treatments of morbid obesity is represent as a major operations, relatively little side effect in experience laparoscopic hands surgeons and has a good results for weight reductions , for this reasons this operation were increasing in U.S. and other countries as my country in later years , , the aim of the study was to know the rate of reduction, early and late complications, in our study reports 3 years fallow up of 56 patients who underwent LSG, we found that the rate of weight reduction in the males are relatively more than in females this because they are more active with high sport activity than females in our country, the reduction weights is more rapid in the first 3 months post operatively in compare with the next months , this is due to raped and sudden changes in the capacity of stomach and due to foot intolerance in early post-operative time, that is why the weight reductions rate is more in the first year postoperatively which is differ from other studies which records the main weight loss of 62.7%, 64.7% , 64.6% after 1, 2, 3 years post operatively [17-19] . The complication is reasonable with very little mortality rate one case only from 56 patients due to leakage lead to uncontrolled peritonitis and septicemia, this operation with very good result of decreasing the weight , about some vitamins deficiency syndrome as vitamin zinc and B12 were occur in spite of oral intake that means due to absorption defect of vitamins and repeated vomiting this vomiting occur in more than 80% of patients while remaining little cases who were not vomited due to refuse to eat or drink post-operative except little amount and in frequent times. so we suggest to give theses vitamins by injection route. 57.1% of cases were complaining from upper abdominal pain mild to moderate in severity due to this procedure represent as minimal invasive surgery this pain we were control on it by simple analgesia , 10.7% of cases got chest infection which we suspect this complication due to morbid obesity which interfere with normal breathing and cough postoperatively so lead to atelectasis then chest infections, 37.7% of cases got bleeding and hematemesis which diagnose by endoscopy and appear occur at the site of stapler ,5.3% of cases got renal impairments temporarily due to repeated vomiting and significant decrease in water intake which we control on these cases by intravenous good hydrations. 3.6% of cases (only

2 patients) got leakage from the site of stapler due to un explain the causes ,they discovered by endoscopy one were died due to uncontrolled septicemia another case were got leakage from proximal stapler due to the distal stenosis of stomach and the proximal stapler near to the angle of his which were discover by endoscopic diagnosis we need to take a care for . while weight regain after one year 12% due to remove less than 75% of stomach and due to dietary intolerance in some patients still cannot control on dilatory intake this must be aware in next operations to prevent this complication , 10.7 of cases get later gall stones due to dilatory changes so we recommend that with sleeve need cholecystectomy at the same time .

CONCLUSIONS

sleeve gastrectomy is a simple operation in hand experience of laparoscopy , it give very good results in treatments of morbid obesity , decreasing in the weight mostly occur in the first year then the rate of reduction will be decrease in next year this because the ability of stomach to distend gradually especially when the patients start to increase in the rate and amount of eating with the times so we must explain this scenario to the patients . as we see from our study, complication that may occur post operatively are relatively can control on them by well preparation of the patients preoperatively and a good post-operative fallow up. But still the leakage is the most danger early complication which is difficult to control on it and the cause of leakage relatively un known and why occur at the site of cutting may be due to in proper instruments or due to in proper hand surgeon. So need more study about the cause of leakage and who we manage these cases . and need cholecystectomy at the time of sleeve operation to prevent exposure of patients to another operations due to gall stones that may occur after sleeve gastrectomy.

Applications: this study provide additional information about the early and late complications and who we can prevented it or decrease it in incidence. with the information about the rate of weight reductions.

Peer-review: our study addresses an important entity and most of newly qualified surgeons find our articles interesting.

Footnotes:Institutional review board statement; this study was reviewed and approved by the AL-Hussein teaching hospital.

Informed consent statement: All study participants, or their legal guardian, provided informed written consent prior to study enrolment.

Conflict-of-interest statement: The authors have no commercial associations that may be conflict of interest in relation to this article.

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