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performed - Roux-en-Y gastric bypass (RYGB) or Mini gastric bypass (MGB). Laparoscopic RYGB is considered the gold standard bariatric procedure and is commonly performed around the world. Mini-gastric bypass is a relatively novel procedure with similar effects [4]. Laparoscopic gastric bypass is proven to be effective with good weight loss outcomes and improvements in medical comorbidities such as diabetes [5]. However it is a technically demanding procedure with a longer learning curve.

Sleeve gastrectomy is a restrictive procedure where 70-80% of the stomach is removed to create a narrow gastric tube. LSG was initially used as the first stage surgery in staged bariatric procedures for high risk patients or super-obese patients who are undergoing complex bariatric surgeries. LSG is a faster and relatively technically simpler procedure with effective weight loss and resolution of comorbidities and is gaining popularity in many countries [6]. There is less chance of nutritional deficiencies and there are no complications associated with bowel anastomosis.

Weight loss after a bariatric procedure is dependent on multiple factors. Does the surgical procedure itself have an effect in the given community? Numerous studies have been carried out to compare the effectiveness of these two procedures. Studies in the Sri Lankan community are scarce. In this retrospective study we compared the two procedures within a similar patient cohort to assess the weight loss outcomes and resolution of medical comorbidities within the Sri Lankan setup.

This is a single-institution retrospective study was conducted at the University surgical unit of Colombo South Teaching Hospital (CSTH); Kalubowila; Sri Lanka. Morbidly obese patients who underwent primary bariatric surgeries between January 2017 to January 2021 were included in the study. Laparoscopic sleeve gastrectomy (LSG) and laparoscopic gastric bypass (LGBP) were the two commonest bariatric procedures performed within the unit. Patients were assigned to a laparoscopic sleeve gastrectomy or laparoscopic gastric bypass after a multidisciplinary discussion where patient expectations were considered after explaining the advantages and disadvantages of each procedure. All surgeries were performed by one senior surgeon specialized in Metabolic and bariatric surgery.

Data on demographic factors; pre-operative body weight; body mass index (BMI); waist circumference; total body fat percentage and presence of obesity-related comorbidities - diabetes; hypertension; dyslipidemia and obstructive sleep apnea (OSA) were recorded. Waist circumference was measured using a standard technique in all patients. Total body fat percentage was measured using a bioelectrical impedance analysis (BIA) machine. Bioelectrical impedance analysis utilizes electric current flow to assess impedance/resistance of the body tissue to estimate body composition - Body fat and muscle mass.

Postoperatively these patients were regularly followed-up in the surgical clinic and were assessed after 1 year of surgery. After one year; the percentage of excess weight loss and reduction in waist circumference & total body fat were calculated in each group. Patients with diabetes; hypertension and dyslipidemia were followed up with serial HbA1c measurements; blood pressure measurements and lipid profiles to determine the response to surgery. Weight loss outcomes and improvements in medical comorbidities were assessed between the two surgical procedures after 1 year of surgery.

Weight loss outcomes were assessed as a percentage of excess

weight loss (%EWL). Each patient's ideal body weight was calculated according to the height of the patient using standard BMI charts for Asians. Calculation of %EWL is as follows -

Excess weight (EW) was calculated using the following formula -

$EW = \text{Preoperative weight} - \text{ideal body weight (IBW)}$ .

Percentage of EWL was calculated according to following formula -

$\%EWL = 100 \times (\text{Weight loss}/EW)$

Reduction in waist circumference and total body fat content were converted to a percentage of the pre-operative values.

Data was retrieved from patients' medical records and the database maintained on operated patients. Data were recorded by a separate investigator in data collection forms to avoid observer bias. The consent to recruit in the study was obtained by interviewing patients.

Data analysis was done using IBM SPSS statistics version 25. Chi square test and t-test were used to assess for statistical significance. Ethical clearance for the study was obtained from Ethical Review Committee; CSTH and hospital administration.

In Laparoscopic sleeve gastrectomy the greater curvature of the stomach was mobilized from the pylorus up to the angle of His with complete mobilization of the fundus. A narrow gastric tube was created over a 36F bougie starting from 5 cm proximal to pylorus up to the fundus using endoGI staplers. A Leak test was routinely performed. Following removal of the specimen; the stapler line was reinforced with a 4-0 PDS continuous suture.

In LRYGB a 30 ml gastric pouch was created at the level of the 2nd vascular arcade on the lesser curvature. The length of the gastric limb was kept at 100 cm. The side to side Gastrojejunostomy was created using a 45 mm gold linear stapler and the enterotomy was closed in single layer using 4-0 PDS. The biliopancreatic limb was anastomosed to the jejunum 50 cm down the small bowel. The side to side jejunojejunostomy was created using 45 mm blue linear stapler. The Peterson's defect was closed routinely.

In MGB the gastric pouch was created at the level of the incisura. The fundus was completely mobilized along the greater curvature. The jejunum was traced 150cm down from the DJ flexure and a side to side Gastrojejunostomy was created using a 45mm gold EndoGI stapler. The enterotomy was closed using 4-0 PDS running suture. A leak test was routinely performed in both procedures.

Postoperatively patients were observed in an ICU or HDU setup initially. Oral feeds and mobilization were started on the 1st postoperative day. Patients were discharged on the first or second postoperative day when discharge criteria were met - tolerating oral liquid diet; pain free; mobilizing fully etc.

Postoperatively patients were regularly followed up upto 1 year after surgery. During these follow up visits weight loss and improvements in medical comorbidities were recorded.

Of the 165 patients operated between 2017 January and 2021 January; 138 patients were included in the study while 27 patients were lost to follow up. Of these 84 patients underwent Laparoscopic Sleeve Gastrectomy and 54 patients underwent Laparoscopic Gastric Bypass. Of the LGBP group 39 patients underwent Mini-Gastric Bypass and 15

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underwent Roux-en-Y Gastric Bypass. The majority of patients who

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similar study conducted by Leyba et al in 2011 showed similar results with EWL of 78.8% for LSG group and 86% EWL for LRYGB without statistical significance [12]. These results show that both surgeries have similar weight loss outcomes in the short term. In our study EWL

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pilot trial of bariatric surgery versus intensive medical weight management on diabetes remission in type 2 diabetic patients who do NOT meet NIH criteria for surgery and the role of soluble RAGE as a novel biomarker of success. *Ann Surg* 260: 617-624.. Ann

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