European Journal of Biology and Medical Sciences Research

Vol.2, No.2, 61-67, June 2014

Published by European Centre for Research Training and Development UK (www.ea-journals.org)

ANTERIOR PLICATED ALKADERI'S GASTROPLASTY: A NEW RESTRICTIVE BARIATRIC PROCEDURE

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ABSTRACT: *The obesity has become a serious problem of public health. It´s associated to an increase of the general morbid-mortality and it´s considered a risk factor of different illnesses. The bariatric surgery is one of the pillars in the obesity treatments; its main objective is the control of the weight, to reduce the comorbidities and in this way to improve the life quality and patients' survival.*

KEYWORDS: Bariatric Surgery, Restrictive Bariatric Surgery, Obesity.

INTRODUCTION

The term derives from the Latin "obesitas ¨, which means excessive corpulence and is considered a chronic progressive disease that affects more than 1.7 billion people worldwide. It is the result of multivariate pathogenetic factors: bio-psycho-social factors that influence the quality of life of patients and limit life expectancy. 95% of cases are associated with ingestion of high calorie diets and low physical activity. 1-6.In the United States (U.S.) two-thirds of adults are overweight and 20 million people with morbid obesity. Currently obesity surpasses smoking as the leading cause of preventable death in the U.S. The prevalence of obesity is increasing at an alarming rate, leading to an epidemic of type 2 diabetes mellitus and constitutes a serious public health problem. 5.6

The literature has extensively documented the association between obesity and the increase of morbidity and mortality from hypertension, dyslipidemia, diabetes mellitus, coronary artery disease, congestive heart failure, strokes, gallstones, osteoarthritis, sleep apnea, immobility, certain types of cancer (colon, breast, endometrial, bladder), menstrual disorders, infertility, increase the risk pregnancy and gastroesophageal reflux disease. 5-13 .The evolution of bariatric surgery keep on being the result of observations made accidentally, the origin of this specialty was as a result of observations of a significantly loss of weight that was generated in patients who were resected small bowel with malignancies and / or vascular ones .14 According to the American Obesity Association, bariatric surgery is the only treatment that can achieve a significant and substantial weight loss for morbid obesity.15, 16

Bariatric operations are divided into two groups: the restrictive limits the amount of food to eat (gastric banding and vertical banded gastroplasty, Sales' gastric surset) and mixed predominantly produce malabsorption (gastric bypass and biliopancreatic derivation). Patients need to take long-term dietary changes, changes in lifestyle and medical supervision. The selection procedure is guided by multiple factors, including the patient and surgeon preferences. Some authors choose what kind of intervention to do, according to the dietary

pattern, eg. patients who ingest large amounts of food are advised a restrictive surgery, those who nibbles or multiple-calorie intakes, malabsotive surgery, and if it is a normal food intake of fatty food (fast food), a mixed technique is recommended. 17-21 .Weight loss product of bariatric surgery has positive psychosocial consequences, due to patients improve their quality of life indices of quality of life, social adaptation, decrease anxiety-depressive symptoms and increase overall health. Some authors suggest performing pre-and post-surgery psychiatric support, to promote greater patient psychological stability, favoring weight maintenance achievements. 1.22 – 26

The most frequent complications of bariatric surgery include: persistent vomiting, difficulty to swallow, broken line stapling, gastric acid spill out, suture dehiscence, ulcers, swelling of the stomach sac, painful abdominal distention, nutritional deficiencies that may cause anemia or osteoporosis. The complications from surgery or surgical morbidity are around 10%. Mortality varies depending on publication from 0.2 to 1.5%, the most common cause is pulmonary embolism and multi-system failure. 27.28

The objective of this study is to introduce a new technique to restrictive bariatric surgery, a wide stomach plication, called anterior plicated Alkaderi´s gastroplasty, which was designed by the author, reduces the volume capacity of the stomach by the invagination of the anterior wall to inside, giving a sensation of fulfilment and satiety with few meals intake. So the calorie intake is reduced, this technique indication is similar to any restrictive technical ones. The advantages of this technique are: ease, reversibility, the rapidity of intervention, the short anesthetic time because it does not requires gastric resection, nor tissue surgical dissection nor even tie of small vessels or blood vessel, it is simpler than other procedures from the technical point of view, it is a minimally invasive surgery, carries no mechanical sutures, or gastric banding, it can be performed in elderly patients and patients with associated diseases. Complications are rare, being the most frequent vomiting by accelerated intake, with this technique is minimized the risks of fistulas, bleeding and other complications, with a morbidity and mortality rate from very low to zero , and minimal hospital stay , so thus reduce the costs.10 ,15- 18 , 20,21,27,28

MATERIALS AND METHODS

A study of analytic type, applied, prospectively in the period from November 2011 to March 2012 was conducted: in a sample of eight patients who had obesity-associated comorbidities such as: Hypertension (HTN), diabetes mellitus (DM) type II, sleep apnea and others. These patients received dietary treatment but without satisfactory results so they attended the outpatient laparoscopic surgery. Each patient was informed about the importance of this study, the characteristics of the surgical procedure and the benefits of learning to reduce their body weight. They were asked for verbal and written consent, which is documented in the medical record. The patients underwent surgery, and they were evaluated at one, two and four months after surgery. This study will continue including new patients, and we will monitor them closely.

Surgical technique

The patient is secured to the operating table compression bandages are placed in the lower limbs. Patient intubation and placement of oro-gastric dilatation probe is made of 38gauges and gastric cavity is sucked up if expansion is occurring. The patient is placed in supine position

with legs slightly open and with 20-30 ˚ in reverse Trendelenburg position. The primary surgeon stands between the two legs of the patient and the first assistant at the right of patient. Pneumoperitoneum technique does not differ from the usual. Two 5 mm trocars and one 10 mm are used; the lens is 5 mm and 30 degrees. Trocars are placed in the upper abdomen, the first trocar is placed at the right paramedian region, and the second at left paramedian, the third at the right midclavicular region (2 cm below the costal margin), if it is necessary to use a fourth trocar in the subxiphoid region for the liver retractor. The pylorus and the fundus are identified, then the placement of silk zero points is done, separated in the anterior gastric, between the minor and major curvature, from the bottom to 2 cm from the Hiss angle to 4 cm from the pylorus begins, creating an anterior plicated gastroplasty, reducing the volume capacity of the stomach by invagination of the front wall into the gastric cavity. See (Figures 1,2,3)

Post-operative:
When the operation was carried out, the patient was provided all nutrients, with a contribution of reduced volume. The volume of the patient portion was originally from 100 to 200 ml. A fragmented diet was recommended: 800 kcal / day for the first 3 months and 1000-1200 kcal / day for 6-12 months. It was recommended running, swimming, cycling and running subsequently. Nutritional management was guided by specialized staff and the physical activities too. 5, 29, 30

RESULTS AND DISCUSSION

This study was conducted between November 2011 to March 2012 and were operated on eight patients between 19 and 47 years old, six women and two men with body mass indexes between 35 and 45 kg/m2. Hospital stay was less than 6 hours in all cases. There were no deaths or complications such as fistulas, hematomas, abscesses, peritonitis, or other.In the postoperative visits, patients reported a reduction in intake of 65% to 75% of normal food volume, they showed a decrease in anxiety and appetite and obvious improvement of associated diseases such as hypertension and type II DM, sleep apnea and arthralgia. Weight loss ranged between 12 and 17.8 kg, with an average of 15.1 kg at three months after surgery was found.

The selection of the surgical technique in bariatric surgery depends on several factors: first the patient, body mass index, age, associated diseases and food pattern, at second, surgeon preference and experience, and at third time, of the advantages and disadvantages of proceeding, such as simplicity, the percentage of complications, anesthetic time, mortality and quality of life which the patient has .10, 15,16,27,28 .This new restrictive bariatric surgical procedure has advantages: ease, reversibility, rapid intervention, technical simplicity, short anesthetic time, a percentage of minor procedure complications associated with low morbidity and mortality and due to that, this alternative does not require tissue dissection, or gastric resection or ligating blood vessels or mechanical sutures, nor even it is used gastric bands, having a minimum operating time. the usage of this technique is recommended in patients with extreme age and patients suffering from diseases associated . All these advantages mentioned above, along with the short stay which minimizes costs, make this technique more feasible for obese people.10,17-21

This is a technique that does not require gastric resections for its reduction, therefore it is an easy, reversible and advisable surgery according to the patient's needs. In case of failure in its results it can be converted to another kind of procedure 10.22 -26

These preliminary results, of the studied patient group, are satisfactory and encourage us to continue up the study to obtain results with a larger sample of patients and a longer period of study, the results will be shown

General characteristic: November 2011 to March 2012

Characteristic	**Value**
Weight (Kg)	
Range	85-144
Average	105.5
Standard deviation	18.3
Height (m)	
Range	155-175
Average	162.5
Standard deviation	7.3
Body mass index (kg/m2)	
35-40 Kg/m^2	5 (62.5)
Greater than 40 kg/m2	3 (37.5)
Range	35-45
Average	39.2
Standard deviation	3.1

Table 2. Weight loss (kg) per month, while monitoring patients undergoing gastroplasty complicated than previous Alkaderi. November 2011 to March 2012

Month follow	**Value**
Month 1	
Range	80-9-0
Average	8.4
Standard Deviation	0.4
Month 2	
Range	2.0-5.0
Average	3.6
Standard Deviation	0.9
Month 4	
Range	20-3.8
Average	3.1
Standard Deviation	0.5

CONCLUSIONS

This new variant of restrictive bariatric surgery, has as advantages: the ease, and the possibility to revert, the speed in which the technique is carried out, the short anesthetic time, few complications and low morbid-mortality, this alternative doesn't require tissue dissection, or gastric resection, or blood vessels ligature, or mechanical sutures, or use of gastric bands. In patient of extreme ages, the use of this technique is recommended, with or without associate illnesses. All these advantages next to no long stay patients minimize the costs and it contributes a new sure alternative, to the obesity treatment.

Figure 1: Anterior Plicated Alkaderi's gastroplasty: a new restrictive bariatric procedure.

Figure2: Anterior Plicated Alkaderi's gastroplasty: a new restrictive bariatric procedure.

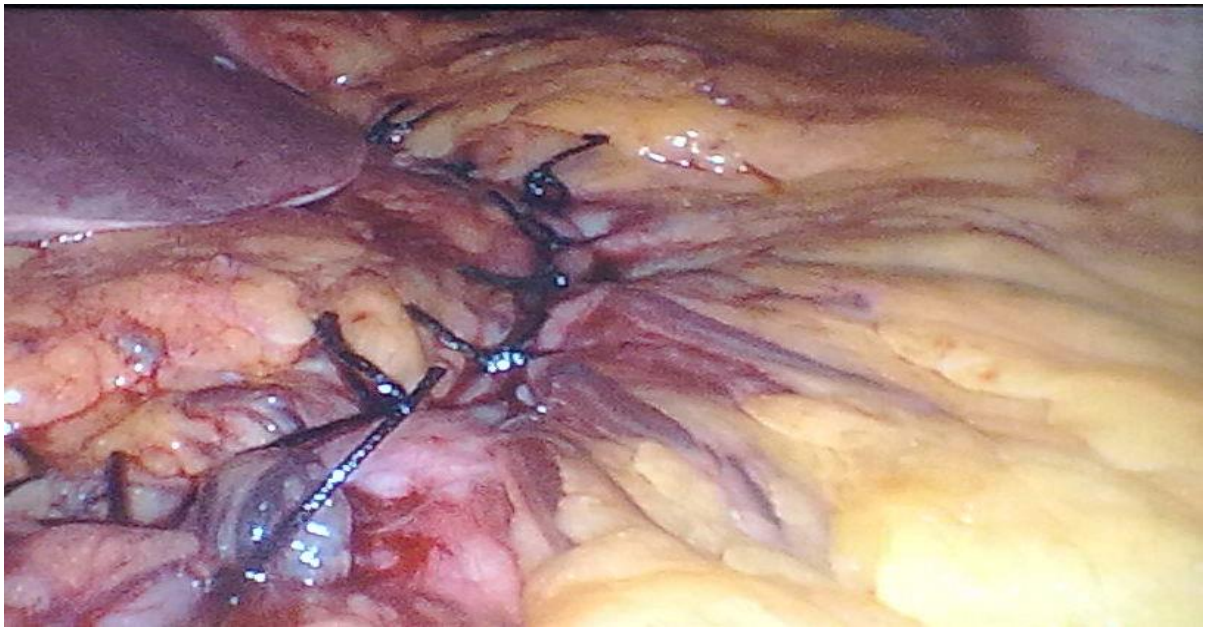

Figure 3: Anterior Plicated Alkaderi's gastroplasty: a new restrictive bariatric procedure.

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