

Laparoscopic sleeve gastrectomy as a bridge to repair recurrent giant eventration in patients with morbid obesity, in relation to 3 cases.

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Summary:

Eventration repair in morbidly obese patients (BMI > 40), has a high rate of complications such as seromas, bruises, infections, and recurrences. It can be performed openly or laparoscopically, where complications are minor. But, if we treat morbid obesity before eventration, the results are better.

We present our experience with 3 cases of patients with a BMI > 40 (mean of 52) who had remediated midline eventration, operated on at our third-level University Hospital. The patients were evaluated in a specialized unit and they underwent a sleeve laparoscopic gastrectomy first. After at least 8-12 months and after significant weight loss, with a percentage of excess BMI lost > 60%, the eventration is repaired. In one of the cases, due to the dimensions of the eventration, it was necessary to perform a preoperative pneumoperitoneum and later eventroplasty with anterior component separation. In all cases, a double component intraperitoneal mesh was placed. The postoperative evolution was favorable, and at one year there are no data on their recurrence and they maintain adequate body weight.

Performing bariatric surgery prior to eventroplasty provides advantages in selected patients and allows optimal repair of the abdominal wall, being an option to consider.

Keywords:

- Eventration
- Morbid Obesity
- Bariatric Surgery
- Case series

Introduction

Correction of eventration in morbidly obese patients with a BMI > 40 (obesity grade III or higher) has a high morbidity rate, as well as a recurrence rate. Seromas, hematomas, surgical wound infections, and recurrences clearly related to BMI 1-2 have been described.

There are numerous current techniques for treating eventrations, both openly and laparoscopically. In turn, within the open route it can be performed with intraperitoneal, retromuscular or suprafascial mesh placement; associated or not with an anatomical separation of anterior or posterior components. In the case of the laparoscopic approach, there are intraperitoneal or retromuscular repair techniques 3-4.

It should be noted that the laparoscopic approach reduces the infection rate, but even so, there is still a significant percentage of recurrences. In those cases where eventration does not present an acute complication, we can first propose bariatric surgery to decrease BMI and then repair eventration with greater guarantees. Although there is controversy in the literature, whether to perform both surgeries together and sequentially, as in our case 6-8.

with BMI > 40, who had recurrent eventration. We describe each of the cases below:

Case nº1: 55-year-old female patient, operated on 3 times with midline eventration using an open approach and with mesh placement, presenting a giant eventration M2-M3-M4-W3, according to the classification of the European Hernia Society (EHS) 5, with chronic suppuration in the infraumbilical region in relation to the previous mesh (Fig 1). At the time of the consultation, he presented a BMI of 66. It was decided to perform a laparoscopic sleeve gastrectomy, without incident. One year after this surgery with a BMI of 38, it is repaired. Botulinum toxin infiltration (Dysport® 500UI on each side) is performed, guided by ultrasound and one month later, pneumoperitoneum is performed, by placing a pleurecath 8Fr catheter in the left hypochondrium, initially instilling 1500ml of air and then 500ml daily (Fig 2-3) and after one week an open eventroplasty is performed, with separation of the anterior components and placement of 25x30cm intraperitoneal Phasix™ ST Bard® mesh (this type of long-term absorbable mesh was used due to previous active chronic infection) (Fig 4), with closure above the fascia. The postoperative evolution is satisfactory, without wound complications (Fig.5).

Material and methods

In our bariatric surgery unit of the Third Level University Hospital, we have selected 3 patients in the last 2 years





Figure 1

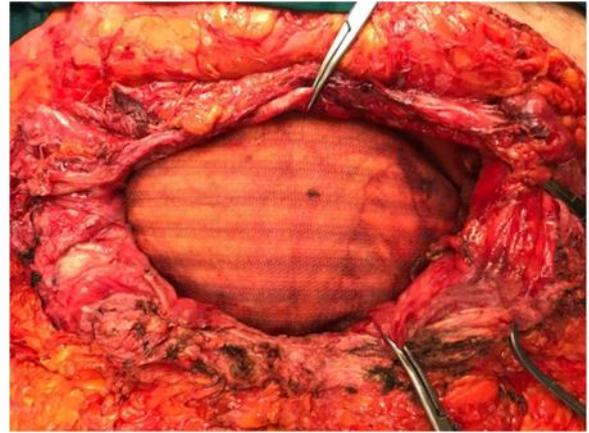


Figure 4



Figure 2



Figure 5



Figure 3

Case n°2: 27-year-old female patient, operated on for an incarcerated umbilical hernia with intraperitoneal mesh placement, which presented a recurrence of the same M3W2 one year (Fig 6). At the time of the consultation, he presented a BMI of 42. After discussion with the patient, a laparoscopic sleeve gastrectomy was decided, without incident. Eight months after surgery, with a BMI of 32, eventration surgery was decided due to increasing discomfort in it. It is accessed laparoscopically, the eventration content is reduced and the defect is closed with a # 1 barbed suture and then placement of 20x25cm Ventralight™ ST Bard® intraperitoneal mesh fixed with CapSure™. The postoperative period runs smoothly.



Figure 6

At the time of the appointment it presents an IMC of 42. After discussing with the patient, we perform a laparoscopic sleeve gastrectomy. Eight months after the surgery, with an IMC of 32, we perform an eventration surgery due to the increasing disturbances. It is accessed by the laparoscopy via, the content of the eventration is reduced and then we perform the defect closure with a barbed suture n. 1 and later, we placed the intraperitoneal mesh Ventralight TM ST Bard* of 20x25 cm and fixed with CapSure TM. There are no disturbances during the period following the surgery.

Case n°3: 43-year-old female patient, operated on 2 times previously with a hernia in the midline, who presents a recurrence of the same, currently M3W3. At the time of the consultation, he presented a BMI of 46. It was decided to perform a laparoscopic sleeve gastrectomy, without incident. One year after surgery and with a BMI of 33, open eventration is repaired by anterior separation of components and placement of 20x25cm intraperitoneal Ventralight™ ST Bard® mesh (Fig. 7), with fascia closure above. The postoperative period runs smoothly.

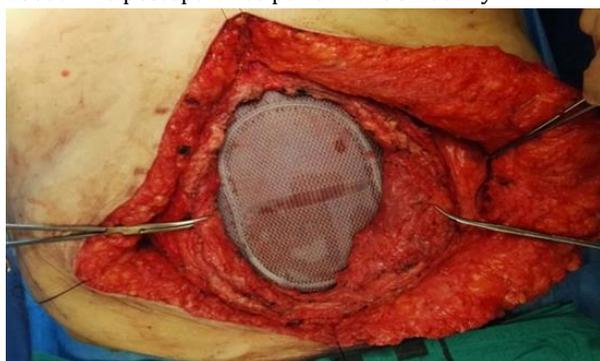


Figure 7

Results

The 3 cases of patients with sleeve gastrectomy and subsequent eventration repair have been performed under better conditions and with good clinical evolution. At the 12-month follow-up, none presented recurrence of eventration and maintained a good weight loss (excess weight > 50%). See table 1.

	Initial IMC	IMC before eventroplasty	Approach	Mesh	Drainage	Post-surgery stay	Post-surgery pain (EVA)	IMC 12 months after
Case 1	66	38	Open-Anterior separation of components-Botox-Pneumoperitoneum	Intraperitoneal	Yes	8	6	38
Case 2	42	32	Laparoscopic	Intraperitoneal	No	2	5	30
Case 3	46	33	Open-Anterior separation of components	Intraperitoneal	Yes	6	6	31

Discussion

Eventration repair in a patient with morbid obesity BMI > 40, has a high rate of complications and recurrences. If we treat obesity, the results of the eventroplasty will be better. There is controversy over whether to perform joint surgery 6-7 or if first bariatric surgery and then wall surgery 7-8. If done together, there is always a risk of infection of the mesh being placed. On the other hand, when the patient loses weight, we may have excess skin or the mesh may be poorly positioned. If, on the other hand, we make the correction, after the weight loss, we can better repair the eventration and we can also correct the excess dermo epidermal flap in the same surgery.

Regarding the bariatric technique, in our case we prefer to perform a sleeve gastrectomy, which is almost always the surgical territory away from the eventration. In all 3 cases, it was possible to perform a laparoscopic approach. If we tried to perform a gastrojejunal bypass, in some cases the content of the eventration would have to be reduced and therefore a defect would remain, which we would have to repair in the same act with a mesh, with the risks of infection of the same as well as recurrence. Although in the literature, there are articles that describe the performance of the bypass 10.

The eventration approach can be performed open or laparoscopic, depending on the eventration. In two cases, where the eventration was large with excess skin excess, it was decided to perform an open procedure, performing an anterior separation of the components, since we have more experience with this technique. There is also the possibility of subsequent separation of components, but our group has no experience with it. The third case was performed using a laparoscopic approach. We believe that the approach must be individualized depending on each patient, taking into account the size of the eventration, the size of the sac, the state of the skin (if it is very thin in the area of the sac or there is an important dermo epidermal flap), knowing that the experience of surgical equipment.

In the case of performing bariatric surgery prior to eventroplasty, patients must be carefully selected. They require detailed information and discussion with the patient, complete assessment by the Endocrinology and Nutrition service; rule out psychiatric pathology and gastroscopic study prior to performing sleeve gastrectomy. In addition, these patients will require regular, periodic follow-up in the postoperative period in conjunction with the Endocrinology and Nutrition service.

Conclusions

In selected patients, morbid obesity treatment should be performed first, before eventration treatment, especially in those that are large or recurrent, to obtain better results and reduce complications.

Bibliografía

- 1.-Froylich D, Segal M, Weinstein A, et al. *Laparoscopic versus open ventral hernia repair in obese patients: a long-term follow-up.* *Surg Endosc.*2016;30(2):670-675. doi: 10.1007/s00464-015-4258-y
- 2.- Owei L, Swendiman RA, Torres-Landa S, Dempsey DT, Dumon KR. *Impact of body mass index on minimally invasive ventral hernia repair: an ACS-NSQIP analysis.* *Hernia.* 2019 Oct;23(5):899-907. doi: 10.1007/s10029-019-01944-6.
- 3.-Bittner R, Bain K, Bansal VK, et al. *Update of Guidelines for laparoscopic treatment of ventral and incisional abdominal wall hernias (International Endohernia Society (IEHS))—Part A.* *Surgical Endoscopy* (2019) 33:3069–3139. doi:10.1007/s00464-019-06907-7
- 4.- Bittner R, Bain K, Bansal VK, et al. *Update of Guidelines for laparoscopic treatment of ventral and incisional abdominal wall hernias (International Endohernia Society (IEHS))—Part B.* *Surgical Endoscopy* (2019) 33:3511–3549. doi:10.1007/s00464-019-06908-6
- 5.-Muysoms FE, Miserez M, Berrevoet F, et al. *Classification of primary and incisional abdominal wall hernias.* *Hernia*

2009;13(4)407-14. <http://doi.org/10.1007/s10029-009-0518-x>.

6.-Krivan MS, Giorga A, Barreca M, et al. *Concomitant ventral hernia repair and bariatric surgery: a retrospective analysis from a UK-based bariatric center.* *Surg Endosc.* 2019;33(3):705-710. doi: 10.1007/s00464-018-6492-6

7.-Praveen RP, Bhattacharya S, Saravana K S, et al. *Morbid obesity with ventral hernia: is concomitant bariatric surgery with laparoscopic ventral hernia mesh repair the best approach? An experience of over 150 cases.* *Surg Obes Relat Dis.* 2019 Jul;15(7):1098-1103. doi:10.1016/j.soard.2019.04.027.

8.-Hidalgo JE, Roy M, Ramirez A, et al. *Laparoscopic sleeve gastrectomy: a first step for rapid weight loss in morbidly obese patients requiring a second non-bariatric procedure.* *Obes Surg.*2012; 22(4):555-559. doi: 10.1007/s11695-011-0574-z.

9.-Borbely Y, Zerkowski J, Altmeier J, et al. *Complex hernias with loss of domain in morbidly obese patients: role of laparoscopic gastrectomy in a multi-step approach.* *Surg Obes Relat Dis.*2017;13(5):768-773. doi: 10.1016/j.soard.2017.01.035

10.-Newcomb WL, Polhill JL, Chen AY, et al. *Staged hernia repair preceded by gastric bypass for treatment of morbidly obese patients with complex ventral hernias.* *Hernia.*2008;12(5):465-9. doi: 10.1007/s10029-008-0381-1.

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