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Original

Surgical treatment of fecal incontinence

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Resumen

Background: Patients with fecal incontinence suffer from serious social and psychological problems. Therefore, the objective was to analyze the evolution of 27 patients who underwent surgery using the Malone, Neo-Malone or Chait's Button procedures in order to administer an antegrade enema. Also, the study aimed at assessing the effect of performing the procedure on their quality of life.

Methods: Research is descriptive and retrospective. Data was obtained from medical records from the period 2000-2010. In order to define a case, patients must have suffered from fecal incontinence and under gone surgery using the Malone, Neo-Malone (flap from de colon) and Chait's button procedures during such period.

Results: Out of the 27 patients analysed, an anorectal deformity was the cause of incontinence in 21, mielomeningocelein 3, Hirschsprung disease in 1, rabdomiosarcoma in 1 and constipation in 1. The Malone procedure was used in 17 of these patients, the Neo-Malone in 6 and the Chait's Button in 4. The complications observed were: leakage from the neo-appendix with peritonitis and reoperation in 1 case, stenosis of the stoma in 9 cases, granulomas in 4 cases and prolapse in 1 case. In 24 cases, patients keep clean from feces and both, patients and parents are satisfied. In 10 cases, patients are independent and administer their own enemas.

Conclusions: The results allow us to consider that surgery to administer an antegrade enema is a good alternative to improve the patient´s quality of life.

Keywords: Malone, Neo-malone, Chait's Button, fecal incontinence.

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The problem of fecal incontinence is very severe for the child who suffers from it and their families. It is considered that 75% of patients who are born with anorectal malformation, with current treatments, can be able to have a good fecal continence. The remaining 25% are incontinent.[1] There are also other conditions such as myelomeningocele, which also leave patients incontinent. Sequels that this problem presents are important psychological disorders, school dropouts, family dysfunction and social disapproval. To try and correct these problems *the colorectal disorders Clinic* was created, where 27 patients has been controlled undergoing the following procedures: Malone and neo-appendix, which are two different techniques to treat the problem in the first one, using the cecal appendix, and the second one, with a duct of the colon wall. (Figure 1), which have a particular relationship to the skin, which allows to perform cleansing enemas inversely to the traditional or in the same direction of the bowel movements. This is what has been called antegrade enemas. In some patients the Chait's button was inserted, a plastic device used to communicate the large intestine in its antimesenteric border with the skin at the front of the abdomen, usually placed on the right side. (Figure 2)

The objective of this research was to analyze patients treated with the three techniques.

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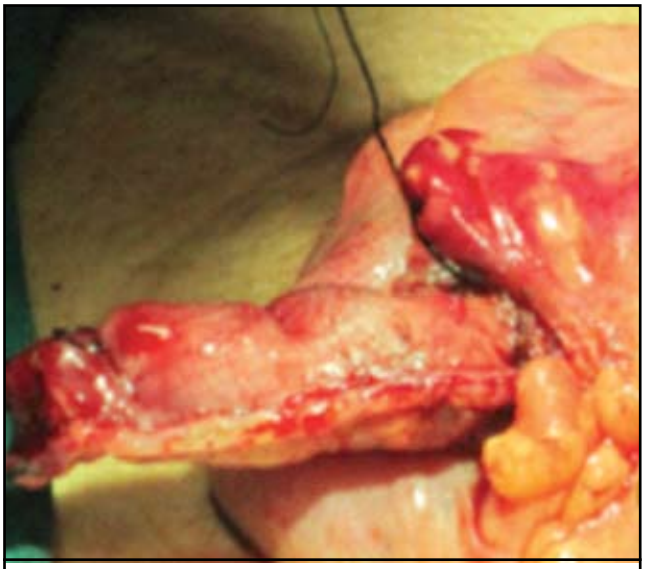

Figure 1. Shows the duct formed by the large intestine, where it has drawn a wedge in the antimesenteric border to make it thin, and has retained its vascularity. This is to what is called Neo-Malone, and is used when you can not use the appendix.

Methods

It is a descriptive study, with retrospective direction, and to collect clinical data, clinical files were used that included the postoperative follow-ups during consultation. Some information was necessary to complete by telephone, when patients lived in remote rural areas.

In all patients before undergoing surgery, a careful research was performed on: a) if they had an appendix and whether it could be used, or if because of a previous surgery, the existence of many adhesions was suspected, b) if patients understood the procedure and if they agreed to it, c) if the family understood and agreed to the procedure. The patients that underwent an appendectomy were also given a choice between the neo-appendix and the Chait's button.

To select the patients the following parameters were used: a) their fecal incontinence had not responded to medical treatment, b) that they would have had any of the three surgical procedures as described.

The study was conducted in the period between 2000 and 2010. Variables were analyzed, such as the cause of the fecal incontinence, the type of surgical procedure performed (Malone, Neo-appendix, Chait's button)[2] and if it was performed with open or laparoscopic surgery. Complications that were presented in each of the procedures are also analyzed. Finally, the results were analyzed, assessing if the patient was kept clean, if they were able to perform the enemas on their own, and what their and their family's level of satisfaction was.

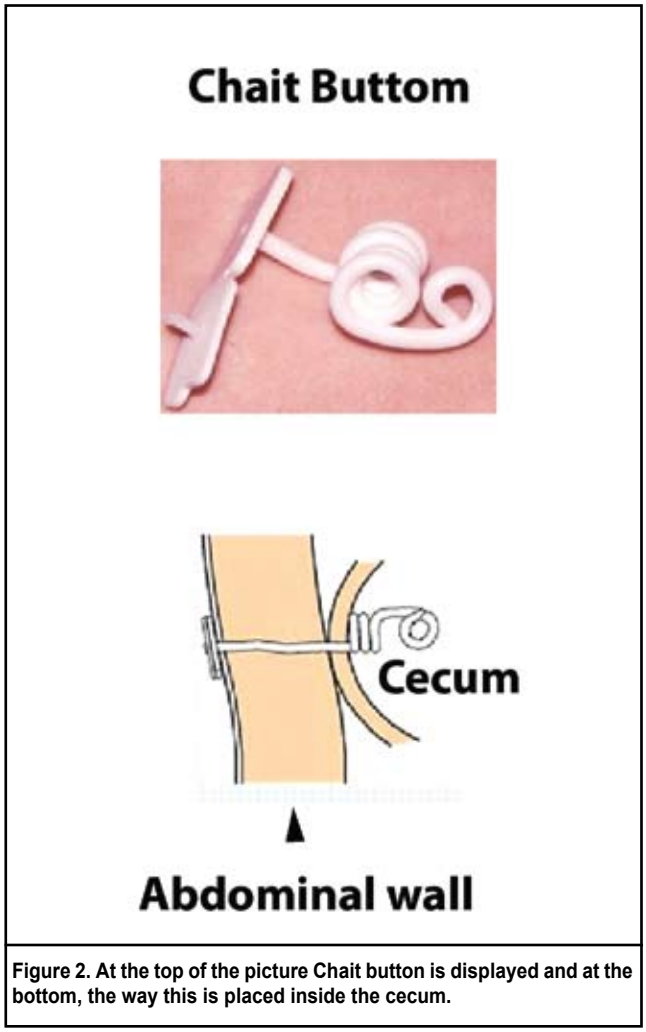

Figure 2. At the top of the picture Chait button is displayed and at the bottom, the way this is placed inside the cecum.

This research was presented and approved by the Institutional Bioethics Committee at the 016-2011 session.

Results

27 patients were studied, 12 female and 15 male. Their age was between 4 years the youngest and 17 the oldest, with a mean of 10 and a mode of 9.

The pathology that led to incontinence is shown in (Table 1). The surgery performed consisted of 18 procedures performed with open surgery, where a laparotomy was performed and 9 underwent the laparoscopic technique. The Malone technique was performed on 17, the neo-appendix on 6 and the placement of a Chait's button on 4.

Table 1. Fecal incontinence related pathologies		
Pathology	**Classification**	**Cases**
Anorectal malformations	Bulbar urethra	6
	Bladder neck	5
	Perineal	3
	Vestibular	3
	High cloaca	2
	Prostatic urethra	1
	Low cloaca	1
Myelomeningocele		3
Aganglionic megacolon		1
Rhabdomyosarcoma		1
Constipation		1
Total		27

The complications presented are analyzed in Table 2. The only complication of peritonitis was in one case of neo-appendix, and granuloma was more common when the Chait's button was used.

In 24 cases it was possible to keep the patient clean, using one or two enemas a day (88.88%). In 10 of the latter cases the fact that they were independent was accomplished, that they themselves performed the antegrade enema (41,66 %).

Patients that were kept clean were found satisfied with the procedure as well as their families.

Discussion

Patients with anorectal malformations who had perineal and vestibular fistulas, where they should get good results with the surgery, showed malformations in the spine and their sacral index was very low. This has been the cause of incontinence, which has been reported in the bibliography.[1,3]

When the Malone or Neo Malone procedure was performed,[4,5] the outlet of the duct was attempted to be placed in the umbilical scar for aesthetic reasons and to not interfere with concomitant urologic procedures, since some of these patients also deserve urinary system surgery.[6,7] When Chait's button was inserted,[8] the cecum was used and this was located on the right side of the abdomen.

The most common complication was mouth stenosis, which was treated with dilations and in three cases the Chait's button was placed in for a while, and when removed dilations were continued, technically, modification of the technique was described to avoid this type of complication.[9] Granulomas were treated with applications of sodium chloride or mercurochrome. Mucosa prolapse required a reoperation for correction. In order to prevent leakage of intestinal contents into the cavity and subsequent peritonitis, the cecum is attached to the abdominal wall.

The small number of patients does not allow for conclusions that have a statistical value, and only seems to indicate that the Malone technique yields an increased number of stenosis and the use of laparoscopic techniques does not increase complications, regarding surgical interventions performed for antegrade enemas, they are considered a good option to improve their quality of life. The existence of a multidisciplinary team for management is required. Studying the problem must be continued to achieve higher data and, in particular, to learn its development in adulthood.

Conflicts of interest: from both authors, there are no conflicts of interest.

Table 2. Complications operated patients had, separated according to the surgical technique used and the complications for each				
	Number of patients	**Peritonitis**	**Stenosis**	**Granuloma**
Malone laparotomy	11		5	1
Laparoscopic Malone	6		3	
Neo-Malone laparotomy	5	1	1	1
Laparoscopic Neo-Malone	1			
Chait button laparotomy	2			2
Laparoscopic Chait's button	2			
Total patients	27	1	9	4

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