



Original article

Retrospective analysis of patients undergoing bowel transit reconstruction in a tertiary referral hospital of São Paulo's east side[☆]



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ABSTRACT

Introduction: The morbidity and mortality of patients undergoing bowel transit reconstruction reach significant values. Perhaps this and other factors could explain why 30–60% of patients end up with definitive ostomies, even those with initially temporary ostomies, due to the procedure risks.

Objective: To analyze retrospectively the medical records of patients undergoing bowel transit reconstruction in one of the SUS referral hospitals in São Paulo from October 2008 to December 2011.

Results: The mean age of our patients was 53.9 years and 54% of those 100 patients studied between October 2008 and December 2011 had significant comorbidity. The indication for creating an initial ostomy was malignancy in 43%, and the mean stoma duration 14.3 months. The mortality rate was 6%.

Conclusion: Although the bowel transit reconstruction is a procedure quite desired by patients, its indication should be carefully evaluated, with an appropriate consent from the patient.

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[☆] Study conducted by the Medical Residency Program of Coloproctology, Department of General Surgery, Hospital Santa Marcelina, São Paulo, SP, Brazil.

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Análise retrospectiva dos pacientes submetidos à reconstrução de trânsito intestinal em hospital terciário de referência da zona leste de São Paulo

R E S U M O

Palavras-chave:

Ostomia
Reconstrução de trânsito intestinal
Morbi-mortalidade

Introdução: A morbi-mortalidade de pacientes submetidos à reconstrução de trânsito intestinal alcança valores significativos e, por esse e outros fatores, talvez se explique o fato que de 30 a 60% dos portadores de ostomia intestinal terminal passam a possuí-la de maneira definitiva, apesar de, na maior parte das vezes, ela ser realizada como procedimento provisório com o argumento de maior segurança do paciente.

Objetivo: Analisar retrospectivamente os dados de prontuário de pacientes submetidos à reconstrução de trânsito intestinal em um dos hospitais de referência do SUS na cidade de São Paulo no período de outubro de 2008 a dezembro de 2011.

Resultados: A média de idade dos pacientes foi de 53,9 anos e 54% dos 100 pacientes estudados no período de outubro de 2008 e dezembro de 2011 padeciam de alguma comorbidade. A indicação para confecção da ostomia inicial decorreu de doença maligna em 43% e o tempo médio de permanência com o estoma foi de 14,3 meses. A taxa de mortalidade foi de 6%.

Conclusão: Embora a reconstrução do trânsito intestinal seja um procedimento bastante desejado pelos pacientes, sua indicação deve ser bastante criteriosa, com consentimento adequado por parte do paciente.

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Introduction

Since the first description of colostomy by the French physician Littré, the use of ostomy and their indications were modified through the ages. However, the morbidity and mortality associated with bowel transit restoration are still cause for concern. In this regard, it is known that overall morbidity rates can reach 50%, and mortality rates vary from 0 and 4.5%.¹⁻³ However, when specifically analyzing patients who underwent bowel transit reconstruction with a previous Hartmann-type ostomy, the values of mortality can reach up to 28%.^{4,5}

The operation initially described in 1921 by Henri Hartmann Albert is of fundamental importance in cases of emergency colorectal surgery and, in addition, it must be emphasized that this type of procedure is commonly performed on patients with severe conditions,⁶ such that only about 30–60% of these patients are referred to bowel transit reconstruction.^{4,5} However, one must keep in mind that, according to Vaid et al., 32.3% of patients undergoing initial surgery with Hartmann-type terminal colostomy failed in their bowel transit reconstruction.⁷

These percentages demonstrate the importance of determining the factors that influence the clinical outcome of patients undergoing surgical bowel transit reconstruction. Among these factors, there is the procedure performed at the initial operation and the complications of this procedure,⁸ the surgical technique used in the restoration of bowel continuity and the experience of the surgeon, the type (terminal- or loop-) of ostomy⁹ and the conscious use of antibiotics and the pre- and postoperative care,¹⁰ in addition to the risk factors associated with the patient itself.

Objectives

To analyze retrospectively data obtained from electronic medical records of patients who underwent bowel transit reconstruction in one of SUS referral Teaching Hospitals in São Paulo.

Patients and methods

This is a retrospective study conducted between October 2008 and December 2011 involving 100 patients treated, monitored and operated by the Medical Residency Service of Coloproctology, Hospital Santa Marcelina, São Paulo.

We sought to analyze data obtained from electronic medical records in relation to gender, age, comorbidities (including smoking), anesthetic risk classification (ASA), mean ostomy duration primary indication (benign or malignant disease), type of anesthesia used for bowel transit reconstruction, mortality and mean in-hospital length of stay.

The study was conducted at the Coloproctology Service, Hospital Santa Marcelina, São Paulo, and approved by the Ethical Committee under No. 27/13.

Results

In the study period, between October 2008 and December 2011, the Medical Residency Service of Coloproctology, Hospital Santa Marcelina, São Paulo, performed 264 elective colorectal operations, comprising 100 bowel transit reconstructions (37.8%).

The mean age of patients was 53.9 years (15–82 years) and 57% were male (Fig. 1). With regard to comorbidities, they were

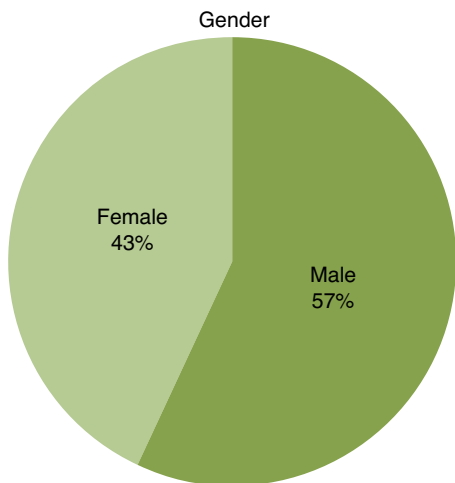


Fig. 1 – Gender distribution.

present in 54 patients, mainly hypertension, diabetes mellitus, smoking and Chagas disease. Among those patients with comorbidity, 23 (42.6%) had an association of two or more medical conditions.

The indication for the initial ostomy creation was malignant disease in 43% (Fig. 2) and the mean stoma duration was 14.3 months. Fifty-two patients had terminal ostomy, notably of Hartmann type. Regarding the classification of anesthetic risk (ASA), 30% were ASA I, 56% were ASA II and 14% were ASA III (Fig. 3). On the other hand, when stratifying the initial indication for stoma construction, 15% of these surgeries can be considered as scheduled procedures, particularly diverting colorectal anastomosis.

General anesthesia was used in 40% of patients, peripheral block in 34% and an association between both types in 26% of patients.

Complications in the surgical procedure occurred in 3% of patients, and none of these progressed to death. Six percent of the patients undergoing bowel transit reconstruction died, and 66.7% of these deceased patients had been treated with a Hartmann-type terminal colostomy (Fig. 4) and 75% of them

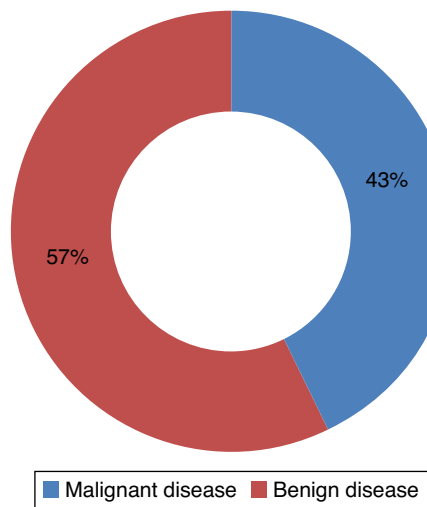


Fig. 2 – Initial indication of stoma construction.

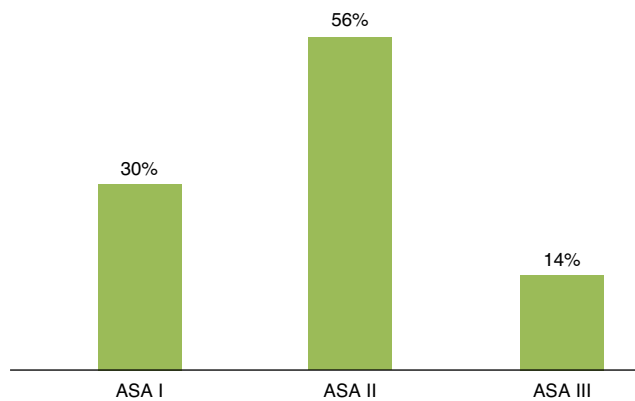


Fig. 3 – Classification of anesthetic risk.

had been reoperated, due to anastomotic dehiscence followed by fecal peritonitis.

The mean in-hospital length of stay time was 7.66 days, with a range of 4–36 days. However, when one looks specifically at the hospitalization time among patients in whom clinical or surgical complications occurred but not progressed to death, this mean time was 27.25 days.

Discussion

In the present study, the mean age stands in the 5th decade. This finding is likely to reflect the percentage of malignant diseases as a cause for stoma indication (43%). However, when one analyzes studies whose main cause for ostomy creation was some traumatic injury (i.e., a gunshot), a lower mean age^{4,11} was found, which may influence the final results for morbidity and mortality.

Melotti et al.¹²⁻¹⁶ studied 273 ostomized patients between 2000 and 2010 and found a mean age of 64.5 years with 53.1% of patients being female. It has been shown, as in our study, that the main indication for ostomy creation was colorectal cancer, accounting for 45.8% of cases.

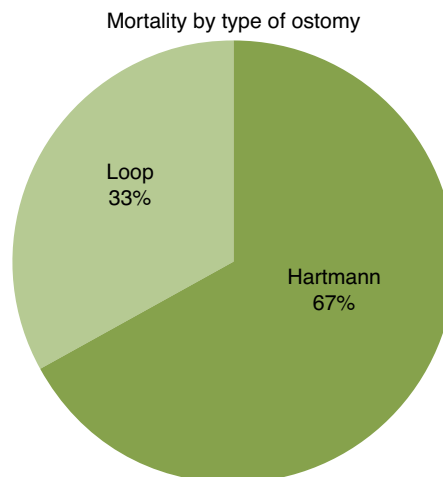


Fig. 4 – Overall mortality and mortality stratified by type of ostomy.

The mean ostomy duration in our study was similar to other results found in national literature.⁶ Silva et al.¹³ noted a mean ostomy duration of 15.7 months (3–284 months). However, this duration undergoes variation, mainly due to the initial indication for the intestinal diversion, for example, neoplastic disease, the need for adjuvant chemotherapy⁶ and also to an overload of the health service system capacity.⁴

We found similar hospital length of stay to those described in the literature. In addition, studies show a longer in-hospital period in cases with surgical times over 300 min, intra-operative adhesions, bowel lesions during surgery, anastomotic fistulae, abdominal wall infections and the need for Intensive Care Unit use.⁶ In our study, all patients that had spent more than 10 days of in-hospital length of stay were those undergoing reoperation.

As regards to mortality analysis, our overall rate was 6%, with 4.1% for cases of loop ostomy and 7.7% for terminal ostomy. When reviewing the literature, it appears that a greater number of overall deaths occurred in our study comparing to other published studies. However, it should be borne in mind that our patients were older than those in the studies reviewed and, in addition, our patients who died were also older (67.5 years). Furthermore, it should be emphasized that one of the patients who died after terminal ostomy reconstruction had actinic disease, and perhaps in this case the surgical indication could be revised, as occurs in cases described in the literature.⁶

Bocic et al.¹⁴ observed a mortality rate of 1.7%. In Brazil, Habr-Gama¹⁵ had an overall rate of 3.6%. Bahten et al.⁴ had one death after bowel transit reconstruction among a total of 42 patients (2.3%). However, when the mortality for surgical reconstruction of bowel transit after an initial Hartmann procedure is analyzed, our data are consistent with the literature, with rates up to 28%.^{5,6}

When stratifying the patients who died, the mean age was 67.5 years, ranging between 52 and 79 years. The gender distribution was equivalent, and 4 of 6 patients (66.7%) exhibited terminal ostomy. In this group of patients, we found that only one had no comorbidities (16.7%), including cases of smoking.

These reported percentages show the importance of determining the factors that influence the clinical outcome of patients undergoing surgical reconstruction of bowel transit. Among these factors, stand out the procedure performed at the initial operation and the complications of this procedure, the surgical technique used in the restoration of bowel continuity and the surgeon's experience, the conscious use of antibiotics and pre- and postoperative care, as well as those risk factors associated with the patient.^{11,16}

Conclusion

Bowel transit reconstruction, although generally a procedure quite desired by the patient, is not free from complications. Therefore, one must always clarify the patient about the main complications, including the possibility of a lethal outcome. In addition, the dedicated team must take into account the contraindications of the procedure.

Conflicts of interest

The authors declare no conflicts of interest.

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