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Original article

Reoperation After Laparoscopic Colorectal Surgery. Does the Laparoscopic Approach Have Any Advantages?☆

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ABSTRACT

Introduction: The laparoscopic approach in colorectal complications is controversial because of its difficulty. However, it has been proven that it can provide advantages over open surgery. The aim of this study is to compare laparoscopic approach in reoperations for complications after colorectal surgery with the open approach taking into account the severity of the patient prior to reoperation.

Methods: Patients who underwent laparoscopic colorectal surgery from January 2006 to December 2015 were retrospectively reviewed. Patients requiring urgent surgical procedures for complications in the postoperative period were divided in two groups: laparoscopic surgery (LS) and open surgery (OS). To control clinical severity prior to reoperation, The Mannheim Peritonitis Index (MPI) was calculated.

Results: A total of 763 patients were studied, 40 required urgent surgery (24 OS/16 LS). More ileostomies were performed in the LS group (68.7% vs 29.2%) and more colostomies in the OS group (37.5% vs 6.2%), $P<.05$. MPI was higher in OS group (27.31±6.47 [19–35] vs 18.36±7.16 [11–24], $P<.001$). Hospital stay after re-intervention, oral tolerance and surgical wound infection, were favorable in LS ($P<.05$ in all cases). In patients with MPI score ≤26, laparoscopic approach showed shorter hospital stay after re-intervention, less stay in the critical care unit after re-intervention, earlier start of oral tolerance and less surgical wound infection ($P<.05$).

Conclusions: A laparoscopic approach in re-intervention for complications after laparoscopic colorectal surgery associates a faster recovery reflected in a shorter hospital stay, earlier start of oral tolerance and a lower abdominal wall complication rate in patients with low severity index.

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Reintervención tras complicaciones en cirugía laparoscópica colorrectal. ¿Aporta ventajas el abordaje laparoscópico?

Palabras clave:
Relaparoscopia
Abordaje laparoscópico
Cáncer de colon
Abordaje quirúrgico

RESUMEN

Introducción: El abordaje laparoscópico en la cirugía por complicaciones colorrectales es controvertido. Sin embargo, puede proporcionar ventajas sobre la cirugía abierta. El objetivo del estudio es comparar el abordaje laparoscópico vs el abordaje abierto en la reintervención por complicaciones tras cirugía colorrectal.

Métodos: Se han analizado de forma retrospectiva, sobre una base de datos prospectiva, los pacientes intervenidos mediante cirugía laparoscópica colorrectal desde enero de 2006 a diciembre de 2015. Los pacientes que requirieron reintervenciones urgentes por complicaciones en el postoperatorio se dividieron según el abordaje (cirugía laparoscópica [CL] y cirugía abierta [CA]) y según su gravedad clínica (en función del índice de peritonitis de Mannheim [IPM]).

Resultados: De 763 pacientes, 40 requirieron cirugía urgente (24 CA/16 CL). Se realizaron más ileostomías en el grupo CL (68,7% vs 29,2%) y más colostomías en el grupo CA (37,5% vs 6,2%), $p < 0,05$. El IPM fue mayor en el grupo CA (27,31 ± 6,47 [19-35] vs 18,4 ± 7,2 [11-24], $p < 0,001$). La estancia hospitalaria tras la reintervención, tolerancia oral e infección de herida quirúrgica fueron favorables en CL ($p < 0,05$). En pacientes con un IPM ≤ 26, el abordaje laparoscópico mostró menor estancia hospitalaria, menor permanencia en unidad de críticos, tolerancia oral más temprana y menor infección de herida quirúrgica ($p < 0,05$).

Conclusiones: El abordaje laparoscópico en la reintervención por complicaciones tras cirugía colorrectal laparoscópica asocia una recuperación más rápida objetivada en un inicio precoz de tolerancia oral, menor estancia hospitalaria y menor tasa de hernia incisional en pacientes con bajo índice de gravedad.

Introduction

Laparoscopic approaches have demonstrated oncological and functional results similar to open procedures, while providing clear advantages in terms of postoperative recovery in comparison.[1–8] The short- and long-term benefits of these minimally invasive treatments have been described in a large number of publications: less intraoperative blood loss, less postoperative pain, earlier tolerance of oral intake, shorter hospital stay, faster return to daily activities, less infection of the surgical site and lower rates of incisional hernia.[2,5,9,10]

Laparoscopy has become the standard treatment for colorectal surgery. However, the use of this approach to manage complications occurring after colorectal surgery, such as hemoperitoneum, intestinal obstruction or anastomotic leakage, remains controversial.[11] Some studies highlight the difficulties that may arise during the use of laparoscopy to manage distended small bowel loops and the possibility of not achieving an optimal view of the abdominal cavity. Other arguments against the laparoscopic approach include the difficulties to find the point of bleeding in cases of hemoperitoneum or to perform an adequate abdominal lavage in cases of purulent or fecaloid peritonitis.[12,13]

The advantages of the laparoscopic approach over open surgery in reoperations after previous laparoscopic abdominal procedures, such as bariatric surgery, acute cholecystitis or acute appendicitis, have already been discussed in other studies.[10,11,14,15] However, very little has been published on the usefulness of re-laparoscopy in the treatment of colorectal complications.[16–19]

One of the most important prognostic factors before reoperation is the patient's initial clinical situation.[11,17,20] Classically, open surgery has been preferred by most surgeons in hemodynamically unstable patients or those with advanced peritonitis. However, there are reports that the laparoscopic approach can also provide benefits in the reoperation of this group of patients. The minimally invasive approach can also reduce wound infections, hospital stay and incisional hernia rates in this population group.[13,21]

The objective of this study is to compare the safety and viability of the laparoscopic approach compared to open surgery for reoperation due to complications after colorectal surgery, while taking into account the patient severity.

Methods

Study design. All patients who had undergone scheduled laparoscopic colorectal surgery between January 2006 and December 2015 at the Virgen de la Arrixaca University Hospital (Murcia, Spain) were included in a prospective database for retrospective analysis.

Exclusion criteria included the conversion to open surgery and the performance of any other non-laparoscopic procedures, such as extracorporeal anastomosis. Out of a total of 763 patients with an entirely laparoscopic approach, patients whose complications were treated with radiology-guided percutaneous drainage or transanal repair were excluded. In the end, a sample of 40 patients was obtained, divided into two groups: laparoscopic surgery (LS) and open surgery (OS). The