



ORIGINAL ARTICLE

Laparoscopic caecal wedge resection with intraoperative endoscopic assistance

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ABSTRACT

Background and Purpose: Cancer is a potential evolution of adenomatous polyps, that is why nowadays screening programs for colorectal cancer are widely diffused. Colonoscopy is the gold standard procedure for identifying and resecting polyps; however, for some polyps resection during colonoscopy is not possible. The aim of the present study is to identify a fast and safe procedure for endoscopically resecting unresectable polyps.

Methods: Patients with endoscopically unresectable polyps were scheduled for laparoscopic wedge resection under colonoscopic assistance.

Results: From November 2010 to November 2012 we treated 15 patients with endoscopically unresectable adenomatous polyps. All patients underwent a laparoscopic caecal wedge resection with intraoperative endoscopic assistance. All procedures were completed without complications and in all cases complete resection of the polyps was achieved.

Conclusions: Laparoscopic wedge caecal resection with intraoperative colonoscopy is a fast and safe procedure that can be performed for large polyps that could not be treated endoscopically.

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1. Introduction

Large bowel tumors are one of the major causes of death for gastrointestinal cancer in the western world.^{1,2} The possible transformation of adenomatous polyps to adenocarcinoma is well established, for this reason screening programs using fecal occult blood test followed by flexible colonoscopy are used world wide³, and in case polyps are discovered, complete removal is always mandatory to prevent malignant transformation.³

Although most of the polyps can now be removed during colonoscopy, some might not be suitable for endoscopic polypectomy either because of size, risk of perforation, specific location inside the colon (i.e. caecum) or lack of experience/adequate instrumentation.⁴ In those cases hybrid techniques such as laparoscopy-assisted endoscopic resection (LAER), endoscopy-assisted wedge resection (EAWR), endoscopy-assisted transluminal resection (EATR), endoscopy-assisted segmental resection (EASR) have been proposed over the years.^{2,5} In all of these procedures an interventional endoscopist and a surgeon work as a team during a single procedure to improve and to make safer the resection of difficult polyps.

The aim of this study is to present our experience for endo-laparoscopic assisted wedge resection for the treatment of caecal polyps not suitable for standard endoscopic polypectomy.

2. Methods and materials

All patients suffering from villous-adenomatous polyps of the caecum not suitable for safe endoscopic polypectomy were scheduled for EAWR. Exclusion criteria were only the presence of suspicious biopsy for adenocarcinoma (in which case standard laparoscopic right hemicolectomy was planned) or patients unfit for surgery.

Under general anesthesia, the patient is placed in supine position with the legs open, tilted towards the left and in mild reverse-Trendelenburg position. The surgeon and the camera handler stand on the left side of the patient, the endoscopist stands between the legs, while the scrub nurse is on the right side in front of the surgical team. Three trocars are inserted as in standard laparoscopic right colectomy, and exploratory laparoscopy of the abdominal cavity is performed.

The right colon is totally mobilized to guarantee a 360° access to the caecum; the terminal ileum is clamped in the distal part by a laparoscopic bulldog forceps (Fig. 1) in order to reduce the insufflation of the small bowel during colonoscopy. At this point intraoperative colonoscopy is performed up to the identification of the polyps both by the endoscopist and the surgeon.

A 60 mm endoscopic articulated linear stapler (Echelon, Ethicon Endosurgery, Cincinnati, OH, USA) with a gold cartridge is inserted and with the help of the endoluminal view confirming the complete resection of the polyps by wedge resection is carried out (Figs. 2, 3).

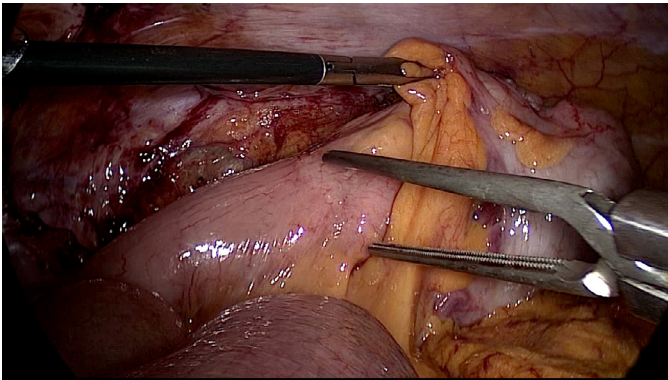


Fig. 1.

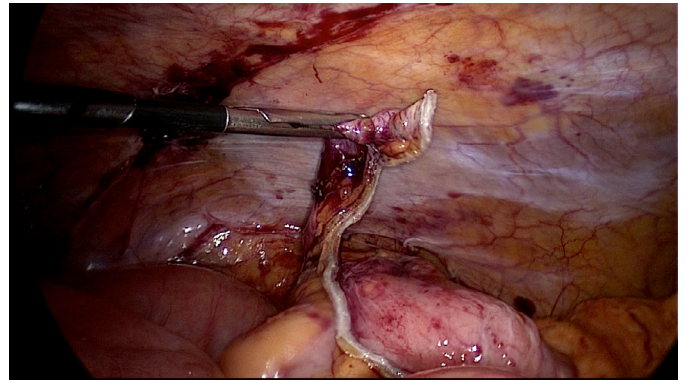


Fig. 3.

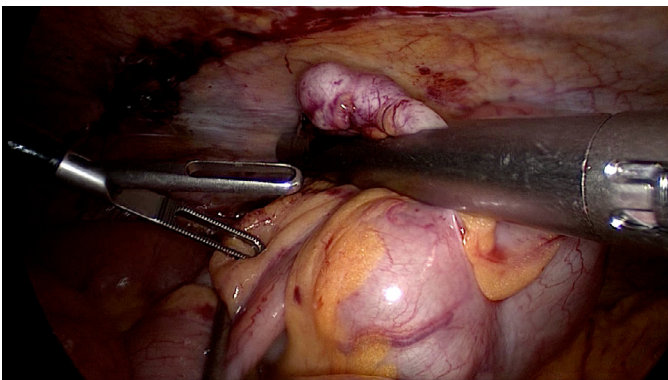


Fig. 2.

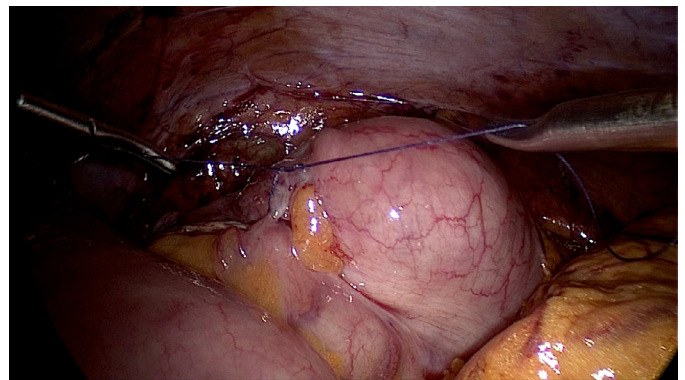


Fig. 4.

The suture line is always reinforced using absorbable continuous suture (Fig. 4).

The specimen is placed into an endobag and extracted from the abdominal cavity through one of the trocar incisions.

3. Results

From November 2010 to November 2012 15 patients were enrolled in the study. Colonoscopy revealed sessile caecal polyps localized at the level of the anterior caecal wall (9 patients), posterior caecal wall (4 patients) or lateral caecal wall (2 patients). Endoscopic assisted wedge resection of the lesion was successful in all 15 cases with complete resection of the lesion on free margins. We experienced no intraoperative complications. The mean operative time was 62 ± 15 minutes. Postoperative course was uneventful; all patients were allowed to start on free diet on post-operative day 1 and discharged on post-operative day 3.

4. Discussion

With the wide spread of screening programs for colorectal cancer a significant number of polyps have to be removed in order to prevent progression to malignant tumor. To date endoscopic polypectomy is the “gold standard” treatment to remove these lesions.

However, some so-called “difficult polyps” cannot easily be resected endoscopically because of their size, location or shape. In these cases polypectomy can also be unsafe due to the elevated risk of perforation both during or few hours after endoscopy. Furthermore, sometimes local conditions may lead to incomplete resections or bleeding.⁶ Perforation and distance bleeding can lead to emergency procedures and expose these patients to surgical risks. It has been estimated that the overall postoperative mortality for colorectal cancer resection is 7.5%.⁷

To overcome the above risks some hybrid techniques such as laparoscopy-assisted endoscopic resection (LAER), endoscopy-assisted wedge resection (EAWR), endoscopy-assisted transluminal resection (EATR), endoscopy-assisted segmental resection (EASR) have been developed.⁸ In these techniques endoscopist and surgeon work together in a single procedure to improve and to make safer the resection of difficult polyps.

In our experience the endoscopy-assisted wedge resection technique seems ideal especially for polyps located near the antimesenteric side of the colon or at the level of the caecum.

The exact location of the polyp is identified thanks to the endoscopy, which also pulls out the polyp from the colonic lumen toward the peritoneal cavity to allow a good tangential resection with a linear stapling device. Endoscopy is also used to check the macroscopic free margin.

In our work we achieved resection of the lesion in toto in all cases considered, without complications. The postoperative course was regular and the patients were discharged between the 2nd and the 3rd postoperative days. Our results are in keeping with similar experiences published in the literature.⁹

5. Conclusions

Laparoscopic wedge caecal resection with intraoperative colonoscopy is a fast and safe procedure that can be performed for large polyps that cannot be treated endoscopically.

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None.

Disclosure statement

The authors have no conflicts of interest to declare.

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