SHORT REPORT

Single port laparoscopic subtotal colectomy and ileostomy in an adolescent with ulcerative colitis

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Abstract

Introduction: Single port laparoscopic surgery has been increasingly used for complex surgical procedures. To our knowledge, this is the first published report of a single port laparoscopic subtotal colectomy and ileostomy in an adolescent patient with ulcerative colitis.

Case report: A 13-year old female patient with ulcerative colitis resistant to maximal medical therapy underwent a single port laparoscopic subtotal colectomy and ileostomy. Both the procedure and the postoperative recovery were uneventful and the patient was discharged home on the sixth postoperative day. Follow-up at 3 and 8 weeks after surgery identified no early complications with a 4 kg weight gain.

Discussion: Single port laparoscopic surgery is feasible in the adolescent population if there is appropriate surgical expertise and strict patient selection.

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1. Introduction

Single port laparoscopic surgery is a relatively new approach to abdominal surgery that continues to evolve. Specifically for colo-rectal surgery, single port laparoscopic surgery has been associated with improved cosmesis and enhanced recovery due to less postoperative pain. The majority of the published reports relate to the adult population, while two cases have been described in adolescents. To our knowledge, this is the first published report of a single port laparoscopic subtotal colectomy and ileostomy in an adolescent patient with ulcerative colitis.
2. Case report

A 13 year old female with ulcerative colitis and a body weight of 44kg (BMI 19) elected to have a single port laparoscopic subtotal colectomy and ileostomy, in consultation with her parents and our multidisciplinary paediatric inflammatory bowel disease team. She had severe pancolitis resistant to maximal medical management, and was failing to grow and put on weight.

After induction of general anaesthesia and appropriate antimicrobial prophylaxis, the patient was placed on the operating table in the modified Lloyd–Davies position. The ileostomy site was used to enter the peritoneal cavity under direct vision via a 2 cm longitudinal incision and the single incision laparoscopic port (Olympus QuadPort™, Southend, UK) was placed (Fig. 1a). A pneumoperitoneum was established at 12 mm Hg. A 5 mm extra-long 30° camera was used along with standard straight laparoscopic instruments. The dissection was initiated by mobilising the sigmoid colon laterally, identifying the left ureter and dividing the distal sigmoid colon with a laparoscopic bowel stapler. A 5 mm laparoscopic Ligasure™ (Covidien, Hampshire, UK) device was used to seal and divide the colonic mesentery close to the colon from the distal sigmoid mesentery working round as far as the distal ileal mesentery. The inferior mesenteric vessels were not divided, in order to make subsequent access to pelvic dissection easier when proctectomy and ileoanal pouch surgery is performed. Once the whole of the large bowel was fully mobilised, the specimen was delivered through the single port at the future ileostomy site (Fig. 1b). The terminal ileum was transected immediately proximal to the ileocaecal valve and an end ileostomy fashioned after ensuring correct ileal orientation (Fig. 1c).

The operation was completed uneventfully in 210 min with blood loss of less than 30 ml. The ileostomy functioned within 24 h of surgery and the patient was discharged on day 6 with no complications. The main reason for this length of stay was stoma care training. At 3 weeks (Fig. 1d) and then 8 weeks after surgery, the patient was pain-free, feeling well and had put on 4 kg in weight.

3. Discussion

Major colorectal procedures are now feasible with a single port laparoscopic approach. The theoretical advantages of reduced hospital stay and improved cosmesis support such efforts. Additionally, with no wounds formed during single port laparoscopic subtotal colectomy and ileostomy, wound infection and incisional hernia are no longer possible complications of this otherwise major surgery. This may have significant future benefits in this patient group, as they are often immunosuppressed at the time of surgery and would generally be at particular risk of these complications.

Important factors for success include an experienced laparoscopic surgical and multidisciplinary paediatric gastroenterology inflammatory bowel disease team, with careful patient selection. Patients with no previous abdominal surgery, low BMI and favourable body habitus are the ideal candidates. However, single port laparoscopic surgery, compared to multi-port laparoscopy, has the disadvantage of difficult instrumentation due to the lack of space and triangulation.

We have previously reported our experience of an adult laparoscopic colorectal surgeon operating on adolescent patients with inflammatory bowel disease. Safe extension of techniques generally carried out in the adult population but potentially applicable to adolescent patients, such as single port surgery, further supports this approach.
In conclusion, single port laparoscopic subtotal colectomy and ileostomy is an appropriate treatment option for adolescents with ulcerative colitis, provided advanced laparoscopic surgical expertise is available and strict patient selection is employed.

Conflict of interest

The authors declare no conflict of interest.

References


