

Laparoscopic Appendectomy: Single Center Experience

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Abstract

With the technological advances and improvements in surgical laparoscopic techniques, laparoscopic surgery has become the standard procedure of choice for many diseases. Laparoscopy, as a minimally invasive technique, has unique advantages in several areas and many scholars have proved its advantages. The rate of laparoscopic appendectomy has been reported to increase in all groups and 66% of laparoscopic appendectomy performed in nonperforated appendicitis versus 100% of use for perforated appendicitis in United States. We present our single-center experience by this study. The overall postoperative complication rate was similar with literature. Twenty-three patients who underwent emergency laparoscopic appendectomy for acute appendicitis enrolled this retrospective study. 2 patients developed postoperative wound site infection. All of the wound infections could be managed conservatively by opening the wound and did not require any further surgical intervention. Percutaneous drainage was successfully performed for soft tissue abscess. There was no mortality in the early postoperative or the follow-up period. There was no readmission for intestinal obstruction and incisional hernia for both groups. There was no secondary hemorrhagia from operation site. Laparoscopic appendectomy should be considered as the gold standard for surgical treatment of acute appendicitis.

Keywords: Laparoscopic Appendectomy; Complications; Appendicitis

Introduction

With the technological advances and improvements in surgical laparoscopic techniques, laparoscopic surgery has become the standard procedure of choice for many diseases. Laparoscopy, as a minimally invasive technique, has unique advantages in several areas and many scholars have proved its advantages [1]. The rate of LA has been reported to increase in all groups, and 66% of LAs performed in nonperforated appendicitis versus 100% of LAs use for perforated appendicitis in United States [2]. We present our single-center LA experience by this study. Twenty-three patients

who underwent emergency laparoscopic appendectomy for acute appendicitis enrolled this retrospective study.

Patients and Methods

Twenty-three patients who underwent emergency laparoscopic appendectomy for acute appendicitis enrolled this retrospective study. All patients had been operated by same surgical team. As by procedure, the trocars placed in accordance with North America technique. Once all of the trocars have been placed, the inflamed appendix visualised. Two atraumatic graspers through the

5-mm trocars used for visualisation and mobilisation of the appendix. After the tip of the appendix grasped and placed in the proper position, ultrasonic energy device (Enseal® Ethicon, Johnson and Johnson, USA) is used to divide and transect the mesoappendix toward the base of the appendix. Appendix skeletonised and excised, after checking the stump, hemostasis ensured. For bleeding control electrocautery (The Valleylab™, Covidien, USA) used for abdominal wall and hemostatic powder (Arista™, Bard, USA/Oxigel Powder, Betatech Med, Istanbul, Turkey)-by applying and holding for 2 minutes- used for caecal side. If hemorrhagia continues secondary application of powder then electrocauterisation planned. Operation area and pelvis irrigated and suctioned carefully. Under direct visualization, all ports removed beyond the fascia, helping to visualize any active hemorrhage and abdominal insufflation ceased. Fascia closed with 2.0 prolene and skin closed with 3.0 prolene. After operation all perioperative details recorded and used for this study. Patients examined in respect of intraoperative and postoperative complications.

Results

All patients underwent same surgical procedure, 23 patients enrolled this study. The mean age was 31 (4/- 4.1). Female/Male ratio was 14/9. Of these, 23 patients were enrolled on the basis of the operative findings. 2 patients were converted to open surgery and excluded. There was no difference in the rate of resection of the mesoappendix or usage of post-operative antibiotics between patients. All enrolled patients were accounted for in follow-up through hospital medical records and searching the statewide admission database. 2 patients developed postoperative wound site infection. Mean Daily drainage was 55 (+/-10) cc and there was no difference between patients. The overall postoperative complication rate was similar with literature.

All of the wound infections could be managed conservatively by opening the wound and did not require any further surgical intervention. Percutaneous drainage was successfully performed for soft tissue abscess. There was no mortality in the early postoperative or the follow-up period. There was no readmission for intestinal obstruction and incisional hernia for both groups. There was no secondary hemorrhagia from operation site and no need for secondary powder application.

Discussion

Acute appendicitis, which is one of the common causes of acute abdominal pain, is an indication for emergency surgical procedures, with an annual incidence of 250,000 patients in the US and 50,000 patients in the UK [1]. Although the ideas that appendicitis can be resolved without surgery has attracted much support, appendectomy has remained the standard approach for the treatment of most types of appendicitis [1-4]; however, the question of the best operative approach has attracted consistent controversy.

Since 1983, after the initial description by Semm [5], laparoscopic appendectomy (LA) has been shown to offer superior benefits to open appendectomy (OA) and it has been used for various types of appendicitis. Faster recovery reduced the rates of surgical site infections (SSIs), a quicker return to work, etc., have been the main advantages demonstrated by some studies [1-6].

Laparoscopy, as a minimally invasive technique, has unique advantages in several areas, and many scholars have tried to prove these advantages. Yet, because OA involves a small incision and perfect skill, the advantages of LA over OA continues to be debated [7]. In order to confirm the greater efficacy of LA, we performed the present research. Regarding operating time, there was an obvious trend toward parity between the two procedures. A reputation for extended operating time is a major disadvantage and has considerably influenced the widespread use of LA [7].

Postoperative complications usually are considered as an assessment of a procedure's safety. The common complications of appendectomy are wound infection, intra-abdominal abscess and postoperative ileus [8]. Generally, it was shown that the overall incidence of postoperative complications was lower in LA patients [8].

Conclusion

Therefore, LA reduces the number of postoperative analgesics and VAS scores together with similar length of hospital stay, operative time, and postoperative complications [8]. Given the possibility of more precise exploration of the entire peritoneal cavity, as well as minimal invasiveness and rapid recovery after laparoscopic approach, the question arises whether the surgeon makes the indication for exploration earlier in uncertain cases [9,10]. Therefore, it should be considered as the gold standard for surgical treatment of acute appendicitis.

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