FREQUENCY OF COMMON COMPLICATIONS AFTER LAPAROSCOPIC APPENDECTOMY

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ABSTRACT

Objective: To determine the frequency of common complications after laparoscopic appendectomy at General surgery department of North West General Hospital & Research center Peshawar.

Study design: Descriptive (Cross Sectional) Study

Place & Duration of study: A Study was conducted in General surgery department of North West General Hospital & Research center Peshawar from Jan-1st, 2013 to March 30th, 2014

Methodology: A total 120 patients undergoing laparoscopic appendectomy, age group between 18 to 60 were selected carefully by purposive sampling

Results: 120 patients were considered eligible for study according to inclusion criteria. Subjects' mean age was 31.7, standard deviation 11.5, Age range 18–60) y, with 73 male (60.8%) and 47female (39.1%) subjects. Postoperative complications were identified in 12 patients. 10 patients were wound infection was managed by opening and packing the wound (8.3%) and 2 intra-abdominal abscesses were managed by percutaneous drainage (1.6%).

Conclusion: This study was conducted to highlight the magnitude of Common complications in laparoscopic appendectomy. The overall rate of postoperative complications was significantly very low in laparoscopic appendectomy. The results of this study would be a helpful guide for us to illustrate future research and management strategies.

Key words: Common Complications, laparoscopic Appendectomy

INTRODUCTION

The appendix first becomes visible in the eighth week of embryologic development as a protuberance off the terminal portion of the cecum.. Acute appendicitis is the most common cause of acute abdomen leading to emergency operation worldwide. The lifetime rate of appendectomy is 12% for men and 25% for women, with approximately 7% of all people undergoing appendectomy for acute appendicitis during their lifetime[1]. Laparoscopic appendectomy has become increasingly popular but open appendectomy has still its place as a simple and cost effective operation. Internationally the infection rate, after uncomplicated open appendectomy and using subcuticular absorbable method of closure is 3.3%[2]. Despite the use of antibiotics and peri-operative care, postoperative surgical wound infection (SWI) remains the most common post-operative complication [3].Infection is the clinical manifestation of the inflammatory reactionincited by invasion and proliferation of microorganisms.4. A Surgical Site Infection (SSI) is an infection that occurs after surgery in the part of the body where the surgery took place.[5]Appendectomy remains one of the more common emergency procedures performed by surgeons. Current data show the frequency of appendicitis in Ontario to be 75 per 100 000 population.[6]. Despite numerous experimental trials it is still not clear whether open appendectomy or laparoscopic appendectomy is the most useful and effective surgical method to acute appendicitis.[7–8]. According to the Cochrane systematic review of the collected works, the challenges facing laparoscopic appendectomy include longer operating time and an increased rate of postoperative infectious complications. In spite of these assumptions, careful analysis of individual studies included that practical issue may influence on postoperative contagious problems. Violent manipulation of the infected appendix and needless use of irrigation may produce better bacterial infection of the peritoneal cavity. Advance, correction of the practical methodology to laparoscopic appendectomy and appropriate surgical coaching for residents in training will progress surgical consequences. The Rationale of this study was to determine the frequency of complication of laparoscopic methods in terms of complications like SSI and Intrabdominal abscesses for successful operative procedure for acute appendicitis to ensure reduce morbidity in post-operative period of appendectomy in adult ages.

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MATERIALS AND METHODS

This study was carried out in General surgery department of North West General Hospital & Research center Peshawar from Jan-1st, 2013 to March 30th, 2014 . A total 120 patients undergoing Laparoscopic appendectomy were selected carefully by purposive sampling Patients were carefully selected on the basis

specified criteria as follows;

Surgical Site Infection: An infection that occurs in incision line within 30 or less days after the appendectomy of complicated appendicitis and identified by presence of history of pain in wound, redness ,swelling and purulent discharge from wound, are detected by clinical examination and confirmed by culture of pus in laboratory, will be considered as surgical site infection

Intra-abdominal abscesses: An intra-abdominal abscess is a pocket of infected fluid and pus located inside the belly (abdominal cavity). Symptoms may include: Abdominal pain and distention, Anxieties fever.

Acute appendicitis is inflammation of the appendix, the narrow, finger-shaped organ that branches off the first part of the large intestine on the right side of the abdomen

Complicated Appendicitis: If the appendix is perforated or gangrene occurred, then it will be considered as complicated appendicitis

Perforation: Discontinuity of the appendicular wall and exposure of its lumen, found per-operatively.

Gangrenous: If the appendix is blackish /necrotic with compromise in its blood supply, found per-operatively and confirmed by biopsy (histopathology) of appendicular specimen.

This study was conducted after approval from the ethical board and research committee of the North west General Hospital & RC center Peshawar. All admitted patients meeting the inclusion criteria were counted in the study. The purpose and benefits of study and complete procedure of appendectomy were explained to the patients and written informed consent was obtained. After ascertaining complete history, thorough clinical examination will be done and a complete set of routine investigations were sent. All the surgeries were done by the same surgeon having more than five years' experience under general anesthesia through standardized techniques with aseptic measures.

The diagnoses of SSI were based on wound examination and the evaluations of the wound were done clinically. Postoperative pain severity were estimated by using VAS (Visual Analogue Scale) of 1-10; one being no pain and ten being the worst possible pain. Intra-abdominal abscess were screen out through clinical examination. Imaging that disclosed a fluid collection with characteristics of an abscess was considered to have an intra-abdominal abscess.

RESULTS

Results were entered in SPSS version 17. Data presentation of the 120 patients was done in tabular form. Frequency and Percentages were calculated for categorical variables. Various aspects of the patients were studied which as follows:

120 patients were considered eligible for study inclusion. Subjects' mean age was 31.7(standard deviation 11.5, range 18–60) years, with 73 male (60.8%) and 47female (39.1%) subjects.

On surgical assessment, 90 patients had acute non perforated appendicitis (75%), 13 had gangrenous appendicitis (11.6%) and 16 had perforated appendicitis (13.3%).

Postoperative complications were identified in 12 patients. 10 patients had wound infection was managed by opening and packing the wound (8.3%) and 2 intra-abdominal abscesses were managed by percutaneous drainage (1.6%).

Table: 1 Descriptive Statistics

Mean age	Standard Deviation	Range
31.7	11.5	18-60 Years

Table: 2 Age Distribution

Valid	Frequency	Percent
18-25 Years	17	14.1%
26-30 Years	31	25.8%
31-35 Years	21	17.5%
36-40 Years	19	15.8%
41-45 Years	13	10.8%
46-50 Years	10	8.3%
51-60 Years	9	7.5%
Total	120	100%

Table: 3 Gender Distribution

Valid	Frequency	Percent
Male	73	60.8%
Female	47	39.1%
Total	120	100

Table: 4 Complicated Appendicitis

Valid	Frequency	Percent
Non perforated appendicitis	90	75%
Gangrenous appendicitis	14	11.6%
Perforated appendicitis	16	13.3%
Total	120	100%

Table: 6 Common Complication

Valid	Frequency	Percent
Wound infection	10	8.3%
intra-abdominal abscesses	2	1.6%
Total	12	10%

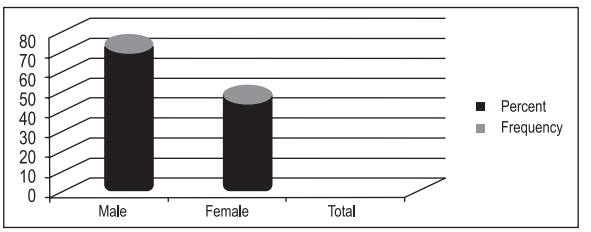

Fig: 1 Gender Distribution

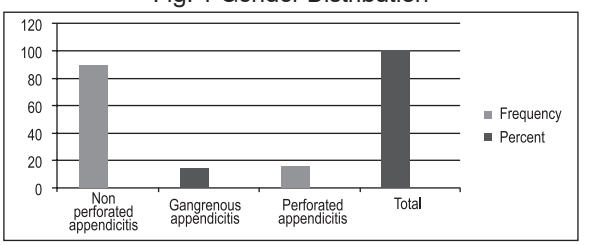

Fig: 2 Complicated Appendicitis

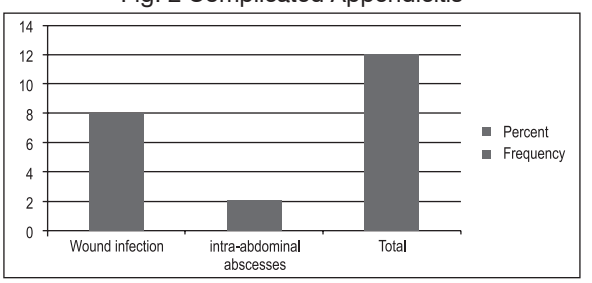

Fig: 3 Common Complication

DISCUSSION

In those scientific settings where surgical skill and equipment are accessible and reasonable, investigative laparoscopy and laparoscopic appendectomy appear to have numerous recompenses over open appendectomy.[8] Concerns over surgical technique transmit to the surgical complications predictable after laparoscopic appendectomy, precisely, a threefold rise in postoperative intra-abdominal abscess laparoscopic appendectomy 1.8%, open appendectomy 0.61%, In this study, we identified a 1.1% rate of postoperative intra-abdominal abscess. In our study 1.6% of patients with a postoperative intra-abdominal abscess in this study had a gangrenous appendicitis and extensive irrigation of the operative site at the conclusion of laparoscopic appendectomy. There are no identifiable, biologically plausible reasons for an increase in infectious complications after laparoscopic appendectomy[9] patients with a gangrenous or perforated appendix are at higher risk of intra-abdominal infections and would be omitted from a laparoscopic approach.[10] Whenever an advanced laparoscopic procedure disrupts basic surgical tenets, the clinical effects have been unvaryingly deprived[11,12]. In this study, we recognized a 1.6% frequency of postoperative intra-abdominal abscess, which does not advise to affected or clinically significant upsurge in infectious complications subsequent laparoscopic appendectomy. A study was done in japan in 2009 Patient demographics were similar in the early .Wound infection was significantly more frequent in the open appendectomy. Intra-abdominal infection was equally common in laparoscopic appendectomy

Despite these drawbacks, Khalil et al, made a reasonable effort in assessing the usefulness of LA in developing countries like Pakistan. Similar studies should include larger number of patients supported with sample size calculations in order to draw more accurate conclusions. The Cochrane review suggests that laparoscopic appendectomy for suspected appendicitis has diagnostic and therapeutic advantages compared to conventional surgery.[13] Open appendectomy should not be considered unbeneficial since the difference between the two techniques is small and depends on the treating surgeon's expertise and patient characteristics.[8] As the costs of laparoscopic appendectomy are an important factor in developing countries, more studies should be done to assess the need for LA in such healthcare settings

CONCLUSION

This study was conducted to highlight the magnitude of Common complication appendectomy. The overall rate of postoperative complications was significantly very low in laparoscopic appendectomy.. The results of this study would be a helpful guide for us to illustrate future research and management strategies. The quality of the literature makes it challenging to determine whether there is accurately an increased risk of intra-abdominal abscess after laparoscopic appendectomy. Further studies must be measured to appreciate this significant issue.

RECOMMENDATION

Provided that surgical experience and equipment are available, laparoscopic appendectomy is safe and equally efficient compared to the conventional technique. However, as long as there is no consensus to the best approach for appendicitis, the choice of the procedure will be based on the preference of the surgeons and patients.

REFERENCES

1. Jafee MB. The appendix: In: Brunicardi C, Anderson KD, Belliar RM, Dunn LP, Hunter JG, Mathews BJ, et al. Schwartz's principles of surgery. 9th edition. New York: McGraw-Hill;2010.p.1073-93.

2. Kotaloto.S Z, Pauniaho, Helminien.M, Koukkanen H, Rantanen T. Wound healing after open appendectomies in adult patients a prospective randomized trial comparing two methods of wound Closure. World JS. 2012;36:2305–10.

3. Khan KI, Mahmood S, Akmal M, Waqas A. Comparison of rate of surgical wound infection, length of hospital stay and patient convenience in complicated appendicitis between primary closure and delayed primary closure. JPMA. 2012:62:7

4. Nasir AA, Cox S, Ameh EA. Paediatric Surgery: A Comprehensive Text for Africa. USA: Global HELP Organization; 2011.

5. Surgical Site Infection (SSI).[Online].[Cited on May 17, 2012]. Available from http://www.cdc.gov/hai/ssi/ssi.html.

6. Al-Omran M, Mamdani MM, McLeod RS. Epidemiologic features of acute appendicitis in Ontario, Canada. Can J Surg. 2003;46:263-8.

7. Golub R, Siddiqui F, Pohl D. Laparoscopic versus open appendectomy: a metaanalysis. J Am Coll Surg. 1998;186:545-53.

8. Sauerland S, Lefering R, Neugebauer EAM. Laparoscopic versus open surgery for suspected appendicitis [Cochrane review]. Cochrane Database Syst Rev. 2010 Oct 6;(10):CD001546.

9. Neudecker J, Sauerland S, Neugebauer E. The European Association for Endoscopic Surgery clinical practice guideline on the pneumoperitoneum for laparoscopic surgery. Surg Endosc. 2002;16:1121-43.

10. Pedersen AG, Petersen OB, Wara P. Randomized controlled trial of laparoscopic verus open appendectomy. Br J Surg. 2001;88:200-5.

11. Strasberg SM, Sanabria JR, Clavien PA. Complications of laparoscopic cholecystectomy. Can J Surg. 1992;35:275-80.

12. Wexner SD, Cohen SM. Port site metastases after laparoscopic colorectal surgery for cure of malignancy. Br J Surg. 1995;82:295-8.

13. Khalil J, Muqim R, Rafique M, Khan M. Laparoscopic Versus Open Appendectomy: A comparison of primary outcome measures. Saudi J Gastroenterol. 2011;17:236–40.