(e) ISSN Online: 2321-9599

(p) ISSN Print: 2348-6805

Original Article

To determine if early access to emergency appendicectomy may effectively reduce the number of operational and postoperative problems

[1]Ajit Kumar Raghuvaran, [2]P.P. Nayar

[1]Associate Professor, [2]Professor and Head, Department of Surgery, Azeezia Medical College Kollam District, Kerala, India

ABSTRACT:

Aim: To determine if early access to emergency appendicectomy may effectively reduce the number of operational and postoperative problems. **Materials and methods:** The current research was carried out on a total of 100 patients suffering from acute appendicitis, split evenly between males and females. Patients were given information about the trial, and their agreement, in writing form, was gained from them. The information about the patient, including their name, age, gender, and other details, was recorded. Recordings were made of many parameters, including the kind of operation that was conducted, the symptoms and signs that were present, the length of time that the symptoms had been present prior to the patient's presentation, the amount of time that passed between admission and the operational procedure, the Alvarado score, and any problems that arose. **Results:** The type of surgery performed was open in 60 and laparoscopicappendectomy in 40. Symptoms were nausea/ vomiting in 55, anorexia in 63, right iliac fossa pain in 46 patients. Signs were RIF tenderness in 61, rebound tenderness in RIF in 52 and elevated temperature in 38 cases. Duration of symptoms at the time of presentation was within 24 hours in 30, within 2 days in 65 and within 1 week in 5 cases. Time interval between admission and operative procedure performed was within 12 hours seen in 90, 12-24 hours in 8 and >24 hours in 2 patient. Alvarado score found to be possible in 50, probable in 30 and very probable in 20 cases. Out of 90 who were operated within 12 hours, 55 had inflamed, 20 had perforated, 10 had gangrenous and 5 had mass formation. Out of 8 who were operated within 12- 24 hours, 8 had inflamed and out of 2 who were operated >24 hours, 2 had perforated appendix. **Conclusion:** The authors discovered that patients who arrived to the hospital at a later time had higher rates of complications, and these patients all had gangrenous appendices after their operations. Therefore, the appendectomy should be performed at the proper moment, beginning with the patient's admission to the hospital.

Keywords: Acute appendicitis, Emergency appendicectomy, surgical site infection, Gangrenous appendicitis,

Corresponding author: Ajit Kumar Raghuvaran, Associate Professor, Department of Surgery, Azeezia Medical College Kollam District, Kerala, India

Received: 17-04-2014 Revised: 05-05-2014 Accepted: 20-05-2014

This article may be cited as: Raghuvaran AK, Nayar P.P. To evaluate the low-pressure pneumoperitoneum laparoscopic cholecystectomy. J Adv Med Dent Scie Res 2014;2(2):219-224.

INTRODUCTION

Appendicitis that is acute is one of the abdominal emergencies that occurs most often in surgical patients who are casualties. The inflammation of the appendix is known as appendicitis.[1] A reduction in appetite, nausea, and vomiting are all frequent symptoms, along with discomfort in the right lower abdomen region. On the other hand, somewhere about forty percent of patients do not exhibit these usual symptoms. In comparison to women, who have a lower chance of having acute appendicitis at 6.7%, men have a greater risk of acquiring acute appendicitis at 8.6%. Severe problems may arise from a burst appendix, the most serious of which is sepsis and extensive, excruciating inflammation of the inner lining of the abdominal wall.[2]

The appendectomy is the surgery that is carried out the most often around the globe, accounting for 6% of all surgical operations. It is carried out as an emergency treatment whenever it is feasible; the only time this is not the case is when there is the development of an appendicular tumor or abscess. In these circumstances, an interval appendectomy is an elective operation that may be done.[3] Emergency appendectomies, either laparoscopically or openly, are the most frequent kind of emergency surgery carried out all over the globe.[4]

Appendectomy performed laparoscopically provides a more accurate assessment of the peritoneal cavity than one performed using an open method. It also makes it easier to rule out other possible diagnoses. The laparoscopic technique has a number of benefits, including a shorter operational time, less postoperative discomfort, less reliance on analgesics, fewer problems related to surgery, a shorter length of hospital stay, a more rapid recovery, fewer instances of wound infection, and minimum scarring.[5]The purpose of the current research was to investigate whether or not early appendicectomy for an emergency situation is useful in lowering the risk of complications during surgery and after surgery.

MATERIALS AND METHODS

The current research was carried out on a total of 100 patients suffering from acute appendicitis, split evenly between males and females. Patients were given information about the trial, and their agreement, in writing form, was gained from them. The information about the patient, including their name, age, gender, and other details, was recorded. Recordings were made of many parameters, including the kind of operation that was conducted, the symptoms and signs that were present, the length of time that the symptoms had been present prior to the patient's presentation, the amount of time that passed between admission and the operational procedure, the Alvarado score, and any problems that arose. A significance level of 0.05 or less was required for the P value.

RESULTS

Table I: Distribution of patients

Gender	Number	%
Male	55	55
Female	45	45

Table I shows that out of 100 patients, males were 55 and females were 45.

Table II Assessment of parameters

Parameters	Variables	Number	P value
type of surgery	Open	60	0.36
	laparoscopic appendectomy	40	
Symptoms	Nausea/ vomiting	55	0.52
	Anorexia	63	
	Right iliac fossa pain	46	
Signs	RIF tenderness	61	0.05
	Rebound tenderness in RIF	52	
	Elevated temperature	38	
duration of symptoms at the time of presentation	Within 24 hours	30	0.01
	Within 2 days	65	
	Within 1 week	5	
time interval between admission and operative procedure performed	Within 12 hours	90	0.01
	12-24 hours	8	
	>24 hours	2	
Alvarado score	Possible	50	0.36
	Probable	30	
	Very probable	20	

Table II, shows that type of surgery performed was open in 60 and laparoscopicappendectomy in 40. Symptomswere nausea/ vomiting in 55, anorexia in 63, right iliac fossa pain in 46 patients. Signs were RIF tenderness in 61, rebound tenderness in RIF in 52 and elevated temperature in 38 cases. Duration of symptoms at the time of presentation was within 24 hours in 30, within 2 days in 65 and within 1 week in 5 cases. Time interval between admission and operative procedure performed was within 12 hours seen in 90, 12-24 hours in 8 and >24 hours in 2 patient. Alvarado score found to be possible in 50, probable in 30 and very probable in 20 cases. The difference was significant ($P<0.05$).

Table III: Complications related with time interval between admission and surgery performed

Time interval	Number	Inflamed	Perforated	Gangrenous	Mass formation	P value
Within 12 hours	90	55	20	10	5	0.01
12-24 hours	8	8	0	0	0	0.36
>24 hours	2	0	2	0	0	0.48

Table III shows that out of 90 who were operated within 12 hours, 55 had inflamed, 20 had perforated, 10 had gangrenous and 5 had mass formation. Out of 8 who were operated within 12- 24 hours, 8 had inflamed and out of 2 who were operated >24 hours, 2 had perforated appendix. The difference was significant ($P< 0.05$).

DISCUSSION

The diagnosis of acute appendicitis may be hard and difficult to achieve in many cases. Appendicitis is the most frequent reason for surgical abdominal procedures, and it may afflict anyone of any age.[6] It has been estimated that between seven and ten percent

of the general population are affected by the condition in their second and third decades of life.[7] The amputation of the appendix is the surgical procedure that general surgeons do the most often. [8,9]As a diagnostic and therapeutic procedure for acute appendicitis, the laparoscopic appendectomy has acquired recognition as a result of the technical advancements that have occurred over the previous two to three decades. Since then, this method has seen a significant amount of use.[10,11] We found that out of 100 patients, males were 55 and females were 45. Chiarugi M et al[12]assessed the therapeutic effects of emergency laparoscopic appendectomy (LA) in treating complicated appendicitis (CA) in 115 elderly patients. Of these, 59 patients consented to open appendectomy (OA), and LA was performed in the other 56 patients. The perioperative and follow-up variables of the 2 groups were analyzed. The operative time in the LA group was longer than the OA group (LA: 70.5±16.0 min versus [vs.] OA: 59.3±12.0 min, p<0.001). The LA group had lower chances of incision infections (LA: 8.9% vs. OA: 28.8 %, p=0.007) and shorter hospital stay (LA: 6.1±2.5 days vs. OA: 9.6±3.5 days, p<0.001). Return to soft diet (LA: 1.4 ± 0.8 days vs. OA: 3.0 ± days, p<0.001) and time to out of bed (LA: 1.3±0.5 days vs. OA: 2.5±0.9 days, p<0.001) was faster in the LA group. The incidence of complications and 30-day readmission rate in the LA group was much lower than the OA group.

We found that type of surgery performed was open in 60 and laparoscopic appendectomy in 40. Symptoms were nausea/ vomiting in 55, anorexia in 63, right iliac fossa pain in 46 patients. Signs were RIF tenderness in 61, rebound tenderness in RIF in 52 and elevated temperature in 38 cases. Garbutt JM et al[13] in their study out of 66 patients, 12 patients had surgical site infection among which 9 were female and 3 were male. 6 patients presented after 2 days of onset of symptoms, 3 patients presented after 3 days, 3 patients presented after 4 days. All patients were operated within 12 hours of hospital admission. All patients underwent open appendicectomy and intra-operatively 9 patients had gangrenous appendix and 3 patients had appendicular mass.

We found that duration of symptoms at the time of presentation was within 24 hours in 30, within 2 days in 65 and within 1 week in 5 cases. Time interval between admission and operative procedure performed was within 12 hours seen in 90, 12-24 hours in 8 and >24 hours in 2 patient. Alvarado score found to be possible in 50, probable in 30 and very probable in 20 cases. We found that out of 90 who were operated within 12 hours, 55 had inflamed, 20 had perforated, 10 had gangrenous and 5 had mass formation. Out of 8 who were operated within 12- 24 hours, 8 had inflamed and out of 2 who were operated >24 hours, 2 had perforated appendix. Hansen JB et al[14] compared and evaluated the open and laparoscopic method of appendectomy in acute appendicitis. The subjects undergoing appendectomy were evaluated for age, sex, episode number, duration of pain before presentation in hospital, operative time, conversion rate, wound infection, post-operative intra-abdominal abscess formation, and stay in hospital. It was found that average operative time in open surgery was 67.5 minutes and 104 minutes in laparoscopic surgery, with a conversion to open in about 20% of the cases. Oral feeding in the open group was around the 5th day while it was around 2nd day in the laparoscopic group. Average hospital stay was also low in the laparoscopic group, beingonly around 5 days in laparoscopic group and around 8 days in the open group. Overall complications were also low in the laparoscopic surgery group.

CONCLUSION

The authors discovered that patients who arrived to the hospital at a later time had higher rates of complications, and these patients all had gangrenous appendices after their operations. Therefore, the appendectomy should be performed at the proper moment, beginning with the patient's admission to the hospital.

REFERENCES

1. Muqim RU, Alam Jan QA , Khan MI, Khan S. Diagnostic laparoscopy in the management of Post appendectomy pain right iliac fossa. Isra Med J 2013;5:18–22.
2. Von Titte SN, McCabe CJ, Ottinger LW. Delayed appendectomy for appendicitis: causes and consequences. Am J Emerg Med 1996;14(7):620– 2.
3. England RJ, Crabbe DC. Delayed diagnosis of appendicitis inchildren treated with antibiotics, Pediatr Surg Int2006;22(6):541–5.
4. Drake FT, Flum DR. Improvement in the diagnosis ofappendicitis. Adv Surg 2013;47:299– 328.
5. Humes DJ, Simpson J. Acute appendicitis. BMJ. 2006;333(7567):530–4.
6. Rappaport WD, Peterson M, Stanton C. Factors responsible for the high perforation rate seen in early childhood appendicitis.Am Surg 1989; 55: 602-5.
7. Brender JD, Marcuse EK, Koepsell TD, et al. Childhood appendicitis: factors associated with perforation. Pediatrics 1985;76:301-6.
8. Mace SE. Issues in pediatric emergency medicine. Foresight.1999;47:5-6.
9. Lau WY, Fan ST, Yip WC, et al. Acute appendicitis in children. Aust NZ J Surg 1987: 57:927-31.
10. Khalil J, Muqim RU. Impact of delay in acute appendicitis.Pak J Surg 2010;26(1):31–5.
11. Jalil A, Shah SA, Saaiq M, Zubair M, Riaz U, Habib Y.Alvarado scoring system in prediction of acute appendicitis. J Coll Physicians Surg Pak 2011;21(12):753–55
12. Chiarugi M, Buccianti P, Celona G, Decanini L, Martino MC, Goletti O et al. Laparoscopic compared with open appendectomy for acute appendicitis: A prospective study. Eur J Surg 1996; 162(2): 385–390.
13. Garbutt JM, Soper NJ, Shannon W, Botero A, Littenberg B. Meta-analysis of randomized controlled trials comparing laparoscopic and open appendectomy. SurgLaparoscEndosc. 1999; 9(4):17-26.

14. Hansen JB, Smithers MB, Schache D, Wall DR, Miller BJ, Menzies BL. Laparoscopic versus open appendectomy: prospective randomized trial. World J Surg 1996; 20(5): 17– 21