ISSN: 0975-3583,0976-2833 VOL13, ISSUE 02, 2022

ORIGINAL RESEARCH

To evaluate the causes of lower abdominal pain for incidental appendectomy during diagnostic laparoscopy

Dr. MD Quamar Zubair

Senior Resident, Dept of General Surgery, ANMMCH, Gaya, Bihar, India

Correspondence:
Dr. MD Quamar Zubair
Senior Resident, Dept of General Surgery, ANMMCH, Gaya, Bihar, India
Email: Quamarz@Yahoo.Com

Abstract

Aim: To evaluate the causes of lower abdominal pain for incidental appendectomy during diagnostic laparoscopy.

Methods: The study was prospective, observational study was done in the department of surgery from January 2018 to September 2021, after taking the permission of ethical committee. Diagnostic laparoscopy was performed in 50 patients with intractable lower abdominal pain. In addition to treating the cause of the pain laparoscopically like adhesiolysis, ovarian cystotomy, etc, an appendectomy was performed in all cases.

Results: All the patients presented with abdominal pain.74% patient's anorexia were found. Nausea 54%, vomiting 40% and fever 44% were other common symptoms. Diarrhoea was found only 4% patients. Mesenteric lymphadenopathy was present in 26 cases, 28% patients had adhesions finding, Out of the 7 patients having ovarian cysts and other pathologies detected were terminal ileitis and colitis in 6 patients, fibroid in the posterior wall of the uterus in 2 case and a mesenteric cyst in 2 case.

Conclusion: We concluded that the diagnostic laparoscopy is indeed a very useful tool to diagnose the cause of intractable abdominal pain. Though it is an invasive procedure, there is no significant pain or morbidity associated with the procedure.

Keywords: lower abdominal pain, diagnostic laparoscopy

Introduction

Laparoscopic appendectomy is one of the most commonly performed acute abdominal surgical operations. Up to 40% of appendices identified during surgery, however, appear macroscopically normal.[1] Appendicitis is the most common cause of cute right lower quadrant abdominal pain (ARLQP); however, a broad spectrum of common and uncommon conditions may mimic acute appendicitis especially in women of childbearing age which may carry a diagnostic dilemma.[1-4] Accurate diagnosis is the cornerstone in avoiding inappropriate treatment and despite improvements in imaging; it may still be difficult to differentiate between gynecologic and non- gynecologic causes of abdominal pain which makes diagnostic laparoscopy to be the gold standard for proper diagnosis and treatment in such condition.[5] Diagnostic laparoscopy may reduce the need for unnecessary open appendectomy; however, it does not prevent missed acute appendicitis as some studies found that about one third of normally appearing appendices was inflamed on pathological review even in presence of other pelvic pathology.[6,7] Most of the studies found that laparoscopic appendectomy has less postoperative pain, a shorter hospital stay, and fewer complications than conventional approach.Incidental appendectomy which is the removal of a

ISSN: 0975-3583,0976-2833 VOL13, ISSUE 02, 2022

macroscopically normal appendix has been evolved during diagnostic laparoscopyespeciallyin females with ARLQP.[8]

Material and methods

The study was prospective, observational study was done in the department of surgery from June 2018 to May 2021,after taking the permission of ethical committee. Diagnostic laparoscopy was performed in 50 patients with intractable lower abdominal pain. In addition to treating the cause of the pain laparoscopically like adhesiolysis, ovarian cystotomy, etc, an appendectomy was performed in all cases.

Inclusion criteria

- Patients between 14 and 62 years of age
- Patients having lower abdominal pain
- Patients who cannot be stamped as having acute appendicitis by laboratory and radiological investigations
- Patients who were fit to tolerate general anaesthesia.

Exclusion criteria

- Included-paediatric and geriatric patients,
- Patients with prior appendectomy,
- Patients having acute or subacute appendicitis on ultrasonography, pregnant patients,
- Patients who were positive for HIV, HbsAg and HCV and patients who could not tolerate general anaesthesia

In each case, a detailed history, clinical examination, investigations and follow up was recorded as per the pro forma. Diagnostic laparoscopy was performed through a 12 mm sub-umbilical incision via a 10 mm 30-degree telescope with the patient in general anaesthesia. Additional 5mm working ports were placed as per the intra operative findings and requirement. Appendectomy was performed via two 5mm working ports- one in the suprapubic region and one in the left iliac fossa. Patients were started on enteral feeds within 24 to 48 hours of surgery. Regular dressings of the stitches were done and stitches were removed on 7 to 11 days. Post-operatively patients were followed up for a period of 1 year and evaluated for any post-operative complications, post- operative pain, incidence of stumpitis and any untoward complication of incidental appendectomy.

Results

The highest percentage of patients (36%) was in the age group of 14-30 years while lowest percentage of 4% was in the age group of 40-50 years. There were no patients in above 62 years age group. The 60% of the patients were females while 40% were males.

Table 1: Symptoms of the patients

	Number	Percentage
Pain	50	100
Anorexia	37	74
Nausea	27	54
Vomiting	20	40
Fever	22	44
Diarrhea	2	4
Constipation	3	6

ISSN: 0975-3583,0976-2833 VOL13, ISSUE 02, 2022

All the patients presented with abdominal pain.74% patients anorexia was found. Nausea 54%, vomiting 40% and fever 44% were other common symptoms. Diarrhoea was found only 4% patients.

Table 2: site of pain of the patients

Site of pain	No. of cases	Percentage (%)
Peri-umbilical region	6	12
Right iliac fossa	25	50
Left iliac fossa	2	4
Hypogastrium	3	6
Lower abdomen diffuse	14	28

Mesenteric lymphadenopathy was present in 26 cases. In most of the cases there were multiple small lymph nodes. Biopsy of the lymph nodes was warranted in 4 cases where the size of the nodes was more than 1.5 cm. In 2 of the cases, the histopathological examination was suggestive of acute non-specific lymphadenitis. In the other case, biopsy report was suggestive of tuberculous lymphadenopathy which required AKT post operatively. 28% patients had adhesions finding . Most of the adhesions were flimsy and were present between the small bowel loops and the abdominal wall. Out of the 12 patients who had free fluid in POD, only 2 of the patients had haemorrhagic fluid of about 10 cc. 4 other patients had about 200 cc and 100 cc serous fluid in the POD. Remaining 6 patients had mild serous free fluid (about 10-20 cc) in the pelvis. Out of the 7 patients having ovarian cysts, only 2 patient had a haemorrhagic cyst in the left ovary. 5 other patients had cysts in the right ovary. Other pathologies detected were terminal ileitis and colitis in 6 patients, fibroid in the posterior wall of the uterus in 2 case and a mesenteric cyst in 2 case.

Table 3: laparoscopic findings in patients

Laparoscopy finding	No. of cases	Percentage (%)
Adhesions/ Bands	14	28
Free fluid	12	24
PID	2	4
Ovarian cyst	7	14
Mesenteric lymphadenopathy	26	52
Terminal ileitis/ colitis	6	12
Mesenteric cyst	2	4
Uterine fibroid	2	4

Discussion

In patients 10 to 30 years of age--the age group associated with a higher incidence of acute appendicitis-who are otherwise healthy, incidental appendectomy is effective in preventing morbidity and death associated with acute appendicitis. In patients 30 to 50 years of age, incidental appendectomy should be left to the discretion of the surgeon. In this age group, the physician should give special consideration to the gender of the patient and the desire for future childbirth. In patients more than 50 years of age, the incidence of acute appendicitis decreases and the risk associated with operation and prolonged anaesthesia is such that an incidental appendectomy is not beneficial. In mentally handicapped patients less than 50 years of age who are physically healthy, incidental appendectomy should be performed. Patients undergoing procedures that may compromise access to the appendix in the future should undergo incidental appendectomy. Incidental appendectomy is contraindicated in patients whose conditions are unstable, patients previously diagnosed with Crohn's disease, patients with an inaccessible appendix, patients undergoing radiation treatment, patients who

ISSN: 0975-3583,0976-2833 VOL13, ISSUE 02, 2022

are pathologically or iatrogenically immunosuppressed and patients with vascular grafts or other foreign material.[9]

In the present study, The highest percentage of patients (36%) was in the age group of 14-30 years while lowest percentage of 4% was in the age group of 40-50 years. There were no patients in above 62 years age group. The 60% of the patients were females while 40% were males. Of these nearly 60% female patients having a spectrum of gynaecological conditions most of which are difficult to diagnose by laboratory and radiological investigations.

Onders et al performed a similar study on 70 patients over a three-year period from 1997 to 2000.[5] In this study, 61 patients were female and 9 were male. The results are comparable to this study where the majority of patients are females. All the patients presented with abdominal pain.74% patients anorexia was found. Nausea 54%, vomiting 40% and fever 44% were other common symptoms. Diarrhoea was found only 4% patients.

Intra operative pathologies found in the presented study were mesenteric lymphadenitis, adhesions, PID, free fluid in pelvis, ovarian cysts, terminal ileitis, mesenteric cyst and uterine fibroid. Onders et al reported adhesions to be the commonest pathology diagnosed on laparoscopy (64.29%).[10] In the present study, mesenteric adenitis was the commonest pathology (52%) followed by adhesions which was the next common (28%). Onders et al also reported one case each of endometriosis and gall bladder pathology which were not found in the present study.[5]

In yet another study by Yorden et al adhesions were the most common pathology and endometriosis the least common in the cohort of the 772 patients of their study.[11]

Biswas et al studied 362 patients admitted with abdominal pain in Tralee general hospital, Ireland between January 1997 and December 1999, who then underwent a laparoscopy. The study reported non- specific abdominal pain in 36.18% of cases. Next in the frequency of occurrence were the gynaecological conditions (31.21%) followed by adhesions in 13.25% cases. Adhesions and gynaecological pathologies together make around 40% of cases in both the studies.[12] 75% patients were discharged within the first 2 days of the surgery. Most of the remaining patients were discharged within the next 2 days. Only 1of the patients was discharged on the sixth post op day because of the development of post-operative paralytic ileus which required electrolyte imbalance correction. This proves that diagnostic laparoscopy is a very well tolerated procedure without any significant post procedure pain or morbidity. There were no major complications of incidental appendectomy identified over a follow up of one year. All the patients had satisfactory pain relief. The only patient who required re admission due to typhlitis was treated with intravenous antibiotics. This probably was an incidental occurrence and not a complication. Port site SSI and paralytic ileus were the only minor complications recorded. Berker et al and colleagues performed a study during the 10-year period from Jan 1994 to July 2004. They performed elective incidental appendicectomy in 231 patients who underwent laparoscopic treatment for pelvic endometriosis. Concomitant appendiceal pathology was present in 115 patients which made approximately 50%. They concluded that the appendix may be involved and may contribute to chronic pelvic pain in patients with endometriosis.[13]

Conclusion

We concluded that the diagnostic laparoscopy is indeed a very useful tool to diagnose the cause of intractable abdominal pain. Though it is an invasive procedure, there is no significant pain or morbidity associated with the procedure.

Reference

1. Paulson EK, Kalady MF, Pappas TN. Clinical practice. Suspected appendicitis. The New England journal of medicine,2003; 348:236–42.

ISSN: 0975-3583,0976-2833 VOL13, ISSUE 02, 2022

2. Humes DJ, Simpson J. Clinical presentation of acute appendicitis: clinical signs - laboratory findings - clinical scores, Alvarado score and derivative scores. In: Keyzer C, Gevenois PA, editors. Imaging of acute appendicitis in adults and children. Springer-Verlag.2011.
3. Andersson RE.Meta-analysis of the clinical and laboratory diagnosis of appendicitis. The British journal of surgery.2004;91:28–37.
4. Khatuja R, Jain G, Mehta S, Arora N, Juneja A, Goel N. Changing Trends in Use of Laparoscopy: A Clinical Audit. Minimally Invasive Surgery.2014;562785.
5. Andrew MH and Roty AR J. Incidental appendectomy with cholecystectomy: Is the increased risk justified?. Am Surg.1987; 53:553.
6. Chang FC, Hogle HH and Welling DR. The fate of the negative appendix. Am J Surg.1973;126:752.
7. Biondi A, Di Stefano C, Ferrara F, Bellia A, Vacante M, Piazza L .Laparoscopic versus open appendectomy: a retrospective cohort study assessing outcomes and cost- effectiveness. World Journal of Emergency Surgery : WJES.2016; 1: 44.
8. Addis D G, Shaffer N, Fowler BS, The epidemiology of appendicitis and ap-pendectomy in the United States, Am. J. Epidemiol.1990;132:910e925.
9. Fisher KS, Ross DS. Guidelines for therapeutic decision in incidental appendectomy. Surg Gynecol Obstet. 1990;171(1):95-8.
10. Onders RP, Mittendorf EA. Utility of laparoscopy in chronic abdominal pain. Surgery. 2003;134(4):549-52.
11. Yordan E, Rotman C, Song JY. Incidental appendicectomy during endoscopic surgery. JSLS. 2009;13(3):376-83.
12. Biswas S, McDonald K, Gleeson N, Falke L. Is NSAP A Myth in Today's World? Laparoscopy As a Diagnostic Tool in The Diagnosis Of (Nsap) Nonspecific Abdominal Pain: A Peripheral County Hospital Experience. Internet J Surg. 2005;8(2):1-8.
13. Berker B, Lashay N, Davarpanah R, Marziali M, Nezhat CH, Nezhat C. Laparoscopic appendicectomy in patients with endometriosis. J Minimally Invasive Gynaecol. 2005;12(3):206-9