E-ISSN: 2616-3470
P-ISSN: 2616-3462

www.surgeryscience.com
2019; 3(3): 128-130
Received: 05-05-2019
Accepted: 10-06-2019

Dr. Ohang Chaudhari
Assistant Professor, SBKSMIRC, Sumandeep Vidyapeeth Pipariya, Madhya Pradesh, India

Dr. Mansi Juneja
Resident, SBKSMIRC, Sumandeep Vidyapeeth Pipariya, Madhya Pradesh, India

Dr. Darshan Gajera
Resident, SBKSMIRC, Sumandeep Vidyapeeth Pipariya, Madhya Pradesh, India

Correspondence
Dr. Mansi Juneja
Resident, SBKSMIRC, Sumandeep Vidyapeeth Pipariya, Madhya Pradesh, India

Appendisectomy: Single institute study

Dr. Ohang Chaudhari, Dr. Mansi Juneja and Dr. Darshan Gajera

DOI: https://doi.org/10.33545/surgery.2019.v3.i3c.158

Abstract
Background: Appendicectomy is the most common emergency abdominal surgery. It can be an open appendicectomy or a laparoscopic one. Laparoscopic appendectomies are preferred to open surgery for simple appendicitis, but most of the advantages are of limited clinical relevance. It has gained popularity in recent years however; it has not become the universal gold standard for acute appendicitis as laparoscopic cholecystectomy has become for cholelithiasis.
Results: A total of 125 patients were treated for appendicitis during this period with a male female ratio of 1:1.36. Most common age group was the 2nd decade with mean age being 20 years, while most common symptom was abdominal pain. Ultrasonography showed evidence of acute appendicitis in 85.6% and leucocytosis in 66.4% cases. Although only 5.6% of appendices grossly appeared normal during surgery, histopathology showed 14.4% to be normal. Wound sepsis (24.8%) was the most common post-operative complication.
Conclusion: Diagnosis of acute appendicitis in our setting is still based on high index of suspicion following clinical evaluation. Combining this with laboratory findings and ultrasound scan has yielded an acceptable negative appendicectomy rate. We advocate routine use of ultrasound along with clinical evaluation and laboratory tests for the timely diagnosis of acute appendicitis and an early surgical intervention to prevent complications.

Keywords: Laparoscopic appendicectomy, open appendicectomy

Introduction
The diagnosis of acute appendicitis is predominantly based on clinical findings. When appendicitis manifests in its classic form, it is easily diagnosed and treated. Unfortunately, these classic symptoms occur in just over half of patients, therefore an accurate and timely diagnosis of acute appendicitis remains clinically challenging. Delay in diagnosis leads to complications significantly increasing morbidity [1]. Although the mortality rate has been vastly reduced, the diagnostic inaccuracy rate of 15% to 20% has remained unchanged in the past century. High rates of negative appendectomy have been reported in females of reproductive age [2]. The main factors contributing to this high negative laparotomy rate have been the nonspecific clinical features of acute appendicitis. Ultrasound has been proposed as an ideal non-invasive adjunct to diagnosis in suspected appendicitis. The pathophysiology of acute appendicitis explains why only half of the patients has a classical presentation. A number of nonappendiceal pathologies in the right iliac fossa can mimic appendicitis and a significant number of appendicectomies are being performed for non-appendiceal pathologies. Treatment can be an open appendicectomy or a laparoscopic one. Laparoscopic appendectomies are preferred to open surgery for simple appendicitis, but most of the advantages are of limited clinical relevance. It has gained popularity in recent years however; it has not become the universal gold standard for acute appendicitis as laparoscopic cholecystectomy has become for cholelithiasis.

Material and Method
All the patient presenting with signs and symptoms of acute appendicitis were included in this study; randomised to have surgery performed using open or laparoscopic technique. Before randomisation patients were informed about risks and benefits of each procedure and a written consent was taken to participate in this study. Data was collected and interpreted in the form of figures and table to arrive at conclusion.

Results and Discussion
In the present study, we have enrolled total 90 patients who were presented to department of Surgery, Dhiraj General Hospital, Sumandeep Vidyapeeth.

1. Sex distribution

Out of total 90 patients 32.35% were male and 67.65% were female and all the patients were divided into two groups i.e. Open group and Laparoscopic group. Allocation of the group was done randomly. If required laparoscopic converted to open. Female predominance was found in our study. Appendicitis is the most commonly performed emergency abdominal surgery and can also be the site of a variety of neoplasms and unusual inflammatory conditions [3]. lifetime risk of appendicitis has been estimated to be 8.6% for males and 6.7% for females [4]. Though a fair number of studies have been conducted and literature exists relating to epidemiology, clinical presentation, surgical findings and histopathological picture, but very few data and literature is present from India. We evaluated the epidemiology, clinical presentation, diagnosis, operative findings, histopathological findings and complications of acute appendicitis in our hospital. In our series male female ratio was found to be 1:1.36 with female predominance which is in contrast to many of the studies in the west and Africa which find male predominance [4, 5]. one study from New Delhi also shows male predominance [6].

Table 1: Sex Distribution

Sex	Patient	Percentage
Male	33	32.35%
Female	57	67.65%

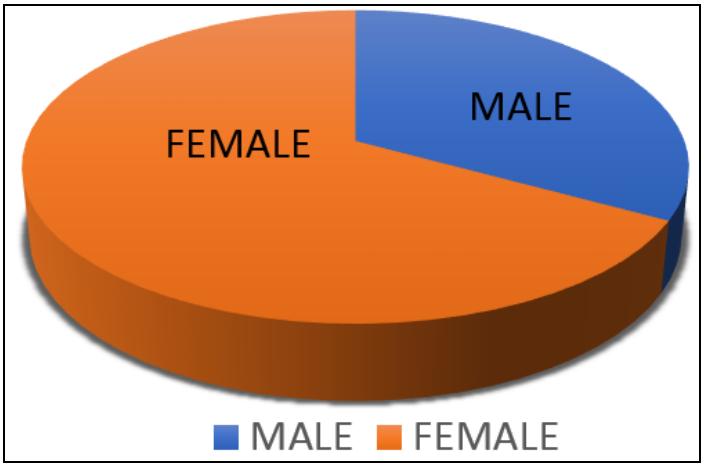

Fig 1: Sex Distribution:

2. Mean age incidence

It was observed that mean age for male patient was 31.23±7.34 years and mean age for female participants was 23.77±11.65 years. In present study, it was found that majority of the patients were fall in age group of 21-30 followed by 31-40 the most productive age group. Marudanayagam R *et al.* [3] in their study of 2660 appendicectomy also found similar result of 2nd decade predominance with 35.09%. In their audit of 250000 patients Addiss DG *et al.* [4] observed that highest incidence of primary positive appendectomy (appendicitis) was found in persons aged 10-19 years. While Singhal R *et al.* [6] found 3 rd decade to be most commonly affected. Our result is in concordance to most of the studies.

Table 2: Mean Age Incidence

Mean Age Incidence	Mean Age	SD
Male	31.23	7.34
Female	23.77	11.65

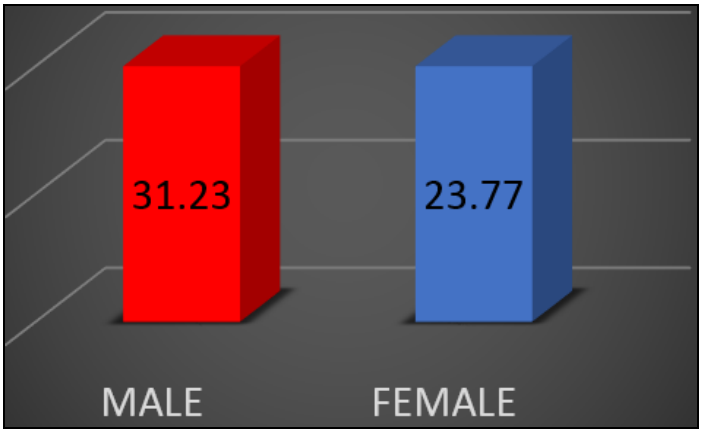

Fig 2: Mean age

3. Surgical findings

In present study during open surgery;8 uncomplicated, 22 gangrenous, 13 abscess and 2 with peritonitis were found and in laparoscopic surgery 39 uncomplicated, 2 gangrenous and two each with abscess and peritonitis were found.

Table 3: The surgical laparoscopic

Surgical Findings	Open	laparoscopic
Uncomplicated Appendix	8	39
Gangrenous	22	2
Abscess	13	2
Peritonitis	2	2

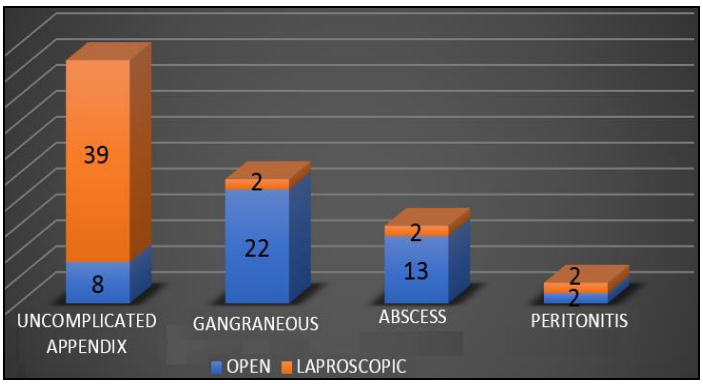

Fig 3: Study during open surgery and laparoscopic surgery

4. Laparoscopic to open conversion based on surgical findings

In this study among laparoscopic surgeries; 1 uncomplicated and all the 2 with gangrenous appendix, 1 with abscess and one with peritonitis were converted to open surgery.

5. Complication of open surgery

In our study 1 patient developed paralytic ileus who was managed conservatively. None of the patient had injury to viscera/ adjacent bowel. 5 patient developed fecal fistula who were managed conservatively by TPN.2 patient had wound sepsis managed by antibiotics and wound dressing.

6. Complication of Laparoscopic surgery

In our study 1 patient had injury to adjacent bowel which was only serosal tear which was sutured by converting in to open surgery.1 patient developed fecal fistula who were managed conservatively by TPN. None of the patient had developed wound sepsis or ileus.

7. Cost of surgery at our institute

Our institute being tertiary institute provide treatment at free of cost. Patient has to bear only cost of suture material and medications. In our study cost of open surgery was less compared to laparoscopic surgery.

Conclusion

Laparoscopic Appendectomy is better than open Appendectomy in terms of intraoperative dissection, post-operative pain, hospital stay but in terms of duration of surgery open surgery scores.

References

1. Lewis FR, Holcroft JW, Boey J, Dunphy E. Appendicitis. A critical review of diagnosis and treatment in 1,000 cases. Arch Surg. 1975; 110(5):677-84.
2. Flum DR, Morris A, Koepsell T, Dellinger EP. Has misdiagnosis of appendicitis decreased over time? A population based analysis. JAMA. 2001; 286(14):1748-53.
3. Marudanayagam R, Williams GT, Rees BI. Review of the pathological results of 2660 appendicectomy specimens. J Gastroenterology. 2006; 41:745-9.
4. Addiss DG, Shaffer N, Fowler BS, Tauxe RV. The epidemiology of appendicitis and appendectomy in the United States. Am J Epidemiology. 1990; 132(5):910-25.
5. Chamisa I. A Clinicopathological Review of 324 Appendices Removed for Acute Appendicitis in Durban, South Africa: A Retrospective Analysis. Ann R Coll Surg Eng. 2009; 91(8):688-92.
6. Singhal R, Angmo N, Somaiah N, Majumdar H, Chaturvedi KU. A retrospective review of the histopathology and clinicopathologic correlates of appendices removed from patients of acute appendicitis. Minerva Chirurgica. 2007; 62(1):11-8.