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Unpleasant Surprises - A Case Series

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Abstract

Background -Acute appendicitis is the most frequent emergency in the general surgical practice worldwide.Recently, with advanced preoperative diagnostic facilities, imaging using high-resolution ultrasound and abdominal CT scan, the diagnosis of simple and uncomplicated acute appendicitis can be confidently established. however there have been incidences of disparity where a simple appendicitis intraoperatively have resulted in variable findings Hence we Present a series of cases which presented with Acute Abdomen, Preoperative Investigation was s/o ?Appendicitis and Intraoperatively was found to have Appendicitis and its Complications.

Materials and Methods

We will be assessing the cases of patients who presented as pain in abdomen and had differential diagnosis of acute appendicitis by examination and radiological investigations, but intraoperatively had variable presentations along with Acute Appendicitis.

Results

5 interesting cases of Acute appendicitis and its complications are highlighted which on clinical examination and radiological investigations were suggestive of acute appendicitis but intraoperatively had other uncommon findings along with appendicitis. Hence a surgeon should be aware of complications of appendicitis and prepared to deal with surprises appendicitis has to offer.

Conclusion

Atypical presentations and complications of appendicitis are quite common worldwide. Surgeons should be aware of the fact that appendicitis may not always present with a typical and classical presentations. They should consider the possibility of appendicitis when evaluating an acute abdomen to prevent any delay in diagnosis of appendicitis with atypical presentations to prevent all incipient life-endangering complications

Keywords: Acute appendicitis, Appendectomy, Uncommon Presentation, Surgical Challenges

Introduction

Acute appendicitis is the most frequent emergency in the general surgical practice worldwide. The life-time incidence of acute appendicitis is estimated to be one in ten people.

Even in highly developed countries, acute appendicitis presents a surgical challenge because of its frequency, the mainly young and active population affected, its polymorphism and its potential gravity.

Surgery in form of appendectomy has remained the standard classical urgent procedure of choice for

decades to avoid the progressive inflammation that leads ultimately to perforation [1].

It has been found recently that such progressive nature of acute appendicitis and perforation is quite uncommon, especially in young and adult patients, and the majority of the cases are simple and uncomplicated [1, 2].

The incidence of acute appendicitis is around 7% of the population .

Although many antibiotics control infections, appendicitis remains a surgical disease. In fact, appendectomy is the only rational therapy for acute appendicitis. It avoids clinical deterioration and may avoid chronic or recurrent appendicitis.

Recently, with advanced preoperative diagnostic facilities, in particular improvement in the diagnostic imaging using high-resolution ultrasound and abdominal CT scan, the diagnosis of simple and uncomplicated acute appendicitis can be confidently established, however there have been incidences of disparity where a simple appendicitis intraoperatively have resulted in variable findings.

Hence we Present a series of cases which presented with Pain in Abdomen, Preoperative Investigation was s/o ?Appendicitis and thus Underwent Exploratory Laparotomy and found to have Appendicitis and its Complications.

Case Series

Case1

18 Year old Gentleman presented to casualty with complaints of Pain in lower abdomen for 3 days,which started in periumbilical region and later in right iliac fossa which was acute in onset and dull aching with no aggravating or relieving factors. H/o fever present.No Known Comorbidity.

On Per abdominal examination- Abdomen was tense, Tenderness and Rebound Tenderness present with localized guarding and rigidity in Right Iliac Fossa. Bowel sounds normal.

Ultrasound abdomen and pelvis was done which showed tubular blind ending structure approximately 9mm in diameter, aperistaltic and non compressible in right iliac fossa with 2.1*1.4cm periappendicular collection S/o Appendicitis.Patient was taken for Emergency Appendectomy.

Intraoperatively- Distal Ileum was directly continuing with Ascending Colon with Absence of Caecum, 10cm diverticulum was found arising from distal ileum with appendix arising from Tip of Diverticulum. Appendix was inflamed and perforated at the tip and the entire segment of distal ileum was freely hanging without any mesentry attached to it of around 20cm.

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Fig. 1a

Fig. 1b

Fig. 1b

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Hence Exploratory laparotomy with resection of terminal ileum with ileocolic anastomosis with Appendectomy was done.

Patient tolerated the Procedure well and was discharged with no post operative complication.

Case 2

31 Year old Gentlemen was brought to casualty with complaints of Generalized Pain in Abdomen since 2 days gradually increasing, moderate in nature associated with 2-3 episodes vomiting containing food particles and H/o constipation since 2 days.

Abdomen was Distended, Generalized tenderness present which was more in Right iliac fossa and Bowel sounds were Sluggish.

Ultrasound Abdomen and Pelvis was done which was s/o Acute Small Bowel Obstruction with ? Acute Appendicitis.

Patient was Covid positive and Hence decision was taken to Explore the patient.

Exploratory Laparotomy done which intraoperatively showed approximately 60-70cc of thick purulent free fluid in Right Iliac fossa and Pelvis with Pus flakes seen over the bowel wall.Inflamed Appendix with dilated Ileocaecal Junction seen, Colon was attached at the splenic flexure , Ileocaecal junction was pulled up upto the Base of liver with Redundant Caecum.

Exploratory Laparotomy with Appendectomy done.

Postoperative Patient was vitally stable and was discharged on POD10 with no post-operative complications

Fig. 2a

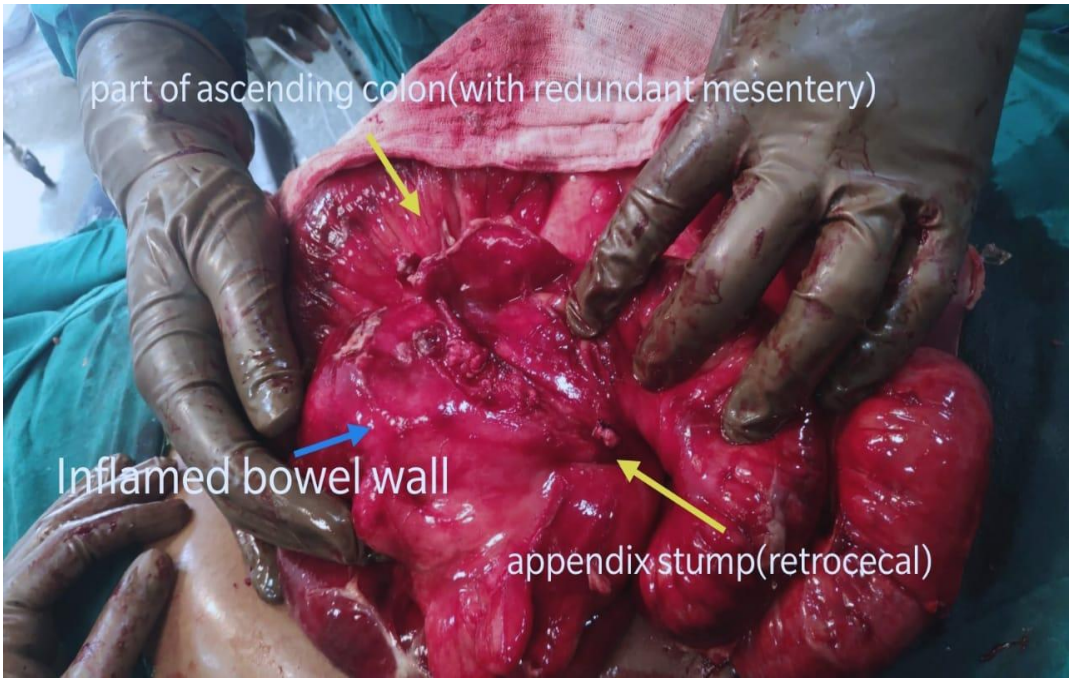

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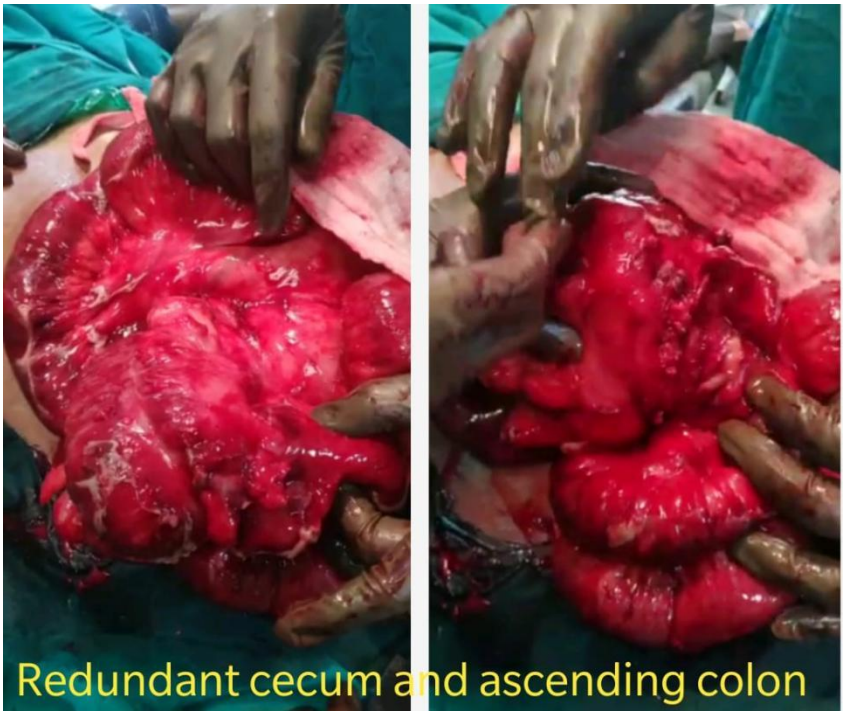
Fig.2b



Case 3

18 year old Gentlemen was brought to casualty with complaints of Pain in right lower abdomen since 3days which was sudden in onset, gradually progressive with H/o 2-3 episodes of vomiting and anorexia since 2 days and low grade fever since 2 days .He had H/o similar complaints 5 months back.

Abdomen was Soft, Tenderness and Rebound Tenderness was present in Right Iliac Fossa, Bowel sounds present.

Ultrasound Abdomen pelvis was s/o probe Tenderness in RIF. Hence CECT Abdomen and Pelvis was done which was s/o Acute appendicitis with rent in medial wall of distal segment with Appendix grossly enlarged approximately 2.1cm with periappendicular free fluid and mesocolon fat stranding and 1.3cm Appendicolith noted.

After complete preoperative investigation, patient was taken for Emergency Exploratory Laparotomy.

Intraoperatively peritoneal cavity was pus filled having around 200ml of collection, Pus flakes seen in Distal ileum with dense adhesions present omentum and ileal loops s/o appendicular lump.

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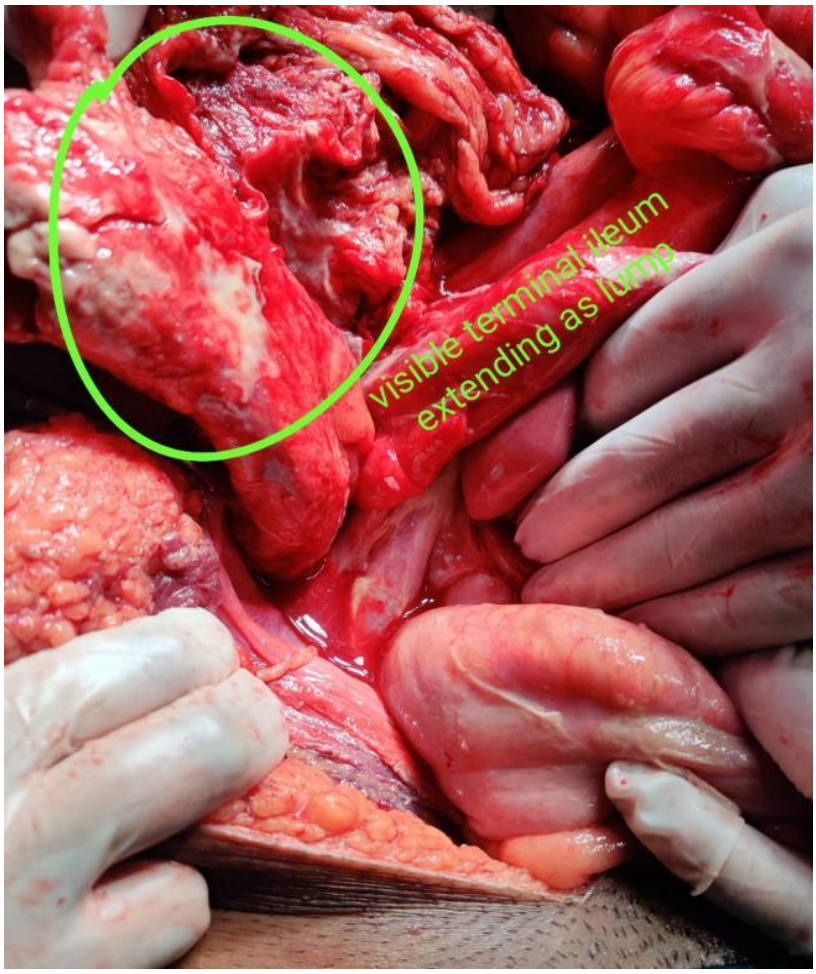
Fig 3: Visible terminal Ileum extending as a lump.



Pus was sent for culture sensitivity and intrabdominal drain was put without any further dissection.Pus culture was s/o Enterobacter Species and E.Coli.

However patient developed surgical site infection, daily dressing done f/b secondary suturing. Patient is planned for Interval appendicectomy.

Case 4

38 year old gentlemen presented to casualty with C/o Generalized Pain in Abdomen since 2 days,associated with H/o 2 episodes of fever spike and 2-3 episodes of vomiting containing food particles with anorexia.

On Per Abdominal Examination- Abdomen was distended, Tenderness present in Right Iliac Fossa and Bowel Sounds were Normal.

Ultrasound Abdomen Pelvis done which was s/o Acute Appendicitis with Mild Appendiceal free fluid and inflammatory changes with thinning of wall at its tip.

After all preoperative fitness, patient was taken for Open Appendectomy.

Intraoperatively - Inflammed Appendix noted around 1cm in diameter and 10cm in length with perforation present at tip of appendix.

Postoperatively patient persistently complained of Pain in Abdomen. Ultrasound showed presence of Hyperechoic collection at drain site approximately 60cc with inflammatory thickening of ileum.

Patient was taken for re-exploration which showed dense adhesions between Small Bowel, Omentum and Caecum, Tinea oedematous and firmly adhered to Caecum forming a mass with the Posterior and Lateral Abdominal Wall. Hence Adhesiolysis with peritoneal wash was given and drain placed in situ.

Post Operative period was uneventful, drain was removed in 4 days and patient discharged on POD10.

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Fig 4: Excised Infammed Appendix with perforation present at the tip

Case 5

45 year lady presented to casualty with C/o Pain in Right lower abdomen since 2 days,2-3 episodes of vomiting containing food particles with H/o Fever and Loose Stools since 2days with frequency 2-3 times per day.

On Per abdominal Examination- Abdomen was soft, tenderness and rebound tenderness present in right iliac fossa, bowel sounds were normal.

Ultrasound Abdomen pelvis was s/o ill defined Hyperechoic collection in Right Iliac Fossa with surrounding echogenic inflammatory mesenteric fat stranding- ?Appendicular Abscess.

After all routine blood investigation and fitness, Patient was taken for emergency exploratory laparotomy.

Intraoperatively Inflammed appendix was present with dense adhesions of Ascending Colon. Ascending Colon was Adhered to surrounding bowel and peritoneum. Approximately 400cc of purulent material present which was sent for culture and sensitivity. Lump present involving the Caecum, Ascending Colon till 12cm Proximal to Hepatic Flexure. Thus Right hemicolectomy done for the patient, patient tolerated the procedure well with no postoperative complications

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Fig 5a showing Ileocolic Anastomosis

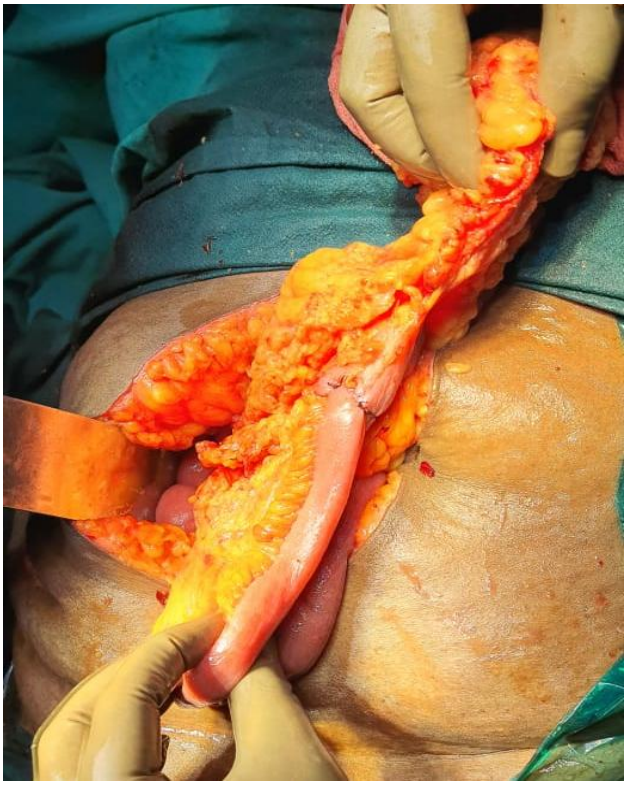

Fig 5b showing excised part of Ileum, Appendix And Ascending Colon.

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Discussion

Acute appendicitis is the most frequent emergency in the general surgical practice worldwide.

The incidence of acute appendicitis is around 7% of the population Worldwide. The higher incidence of appendicitis is believed to be related to poor fiber intake in such countries.

Appendicitis is caused by obstruction of the appendiceal lumen leading to a progressive cycle of pathologic changes [3]. Fecoliths, parasites, tumors, foreign bodies and viral and bacterial agents have all been associated with the development of appendiceal obstruction [4].

The typical and classical presentation of acute appendicitis is that a dull aching abdominal pain of fluctuating intensity starts in the umbilical or periumbilical region or any other part of the middle regions of abdomen specially the epigastric regain one.

Within several hours, the pain gets shifted to the right lower side (RIF -Right Iliac Fossa) of the abdomen, the site of its most common location. Without treatment the pain may become constant and severe.

Presentations of a typical burst (rupture) appendix or gangrenous appendicitis include fever, nausea and vomiting, spreading pain all over the abdomen, board-like rigid abdomen, decreasing respiratory movements of the abdomen with or without abdominal distension etc.[3]

Acute perforation or non perforated acute appendicitis may be localized by the greater Omentum, ileal loop/loops and caecum to form an appendix mass[6]

Many scoring systems were described to aid in the diagnosis of AA. The Alvarado scoring system is the most widely used score [4]; however, it cannot differentiate between complicated and uncomplicated AA, especially in the elderly. To confirm the diagnosis of AA, imaging modalities such as ultrasound, computed tomography (CT) scan, and magnetic resonance imaging are often used [5,6,7]. CECT is considered the most accurate modality for the definitive diagnosis of AA with a sensitivity and specificity exceeding 90% [7].

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Alvarado score	
Feature	**Score**
Migration of pain	1
Anorexia	1
Nausea	1
Tenderness in right lower quadrant	2
Rebound pain	1
Elevated temperature	1
Leucocytosis	2
Shift of white blood cell count to the left	1
Total	**10**

Although many antibiotics control infections, appendicitis remains a surgical disease. Since surgeons started performing appendectomies in the nineteenth century, surgery has been the most widely accepted treatment.

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Current evidence shows laparoscopic appendectomy (LA) to be the most effective surgical treatment, being associated with a lower incidence of wound infection and post-intervention morbidity, shorter hospital stay, and better quality of life scores when compared to open appendectomy (OA) [8]

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Atypical Presentation of appendicitis is quite common and surgeon should be prepared to face any complications during appendectomy even though patient appeared as a case of typical Acute Appendicitis preoperatively.

Conclusion

Atypical presentations and complications of appendicitis are quite common worldwide.

Surgeons should be aware of the fact that appendicitis may not always present with a typical and classical presentations. They should consider the possibility of appendicitis when evaluating an acute abdomen to prevent any delay in diagnosis of appendicitis with atypical presentations to prevent all incipient life-endangering complications.

Knowledge about anatomical variations of the appendix and variable atypical presentations of appendicitis and complications thereof can aid in timely and confident diagnosis with intraoperative identification of appendix with adequate appendectomy.

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