INTRODUCTION

Vermiform appendix is a tubular structure situated about 2 cm below the ileocecal junction on the cecum. It is a lymphoid organ in the human body, not a vestigial organ what was being thought in the past. That is why it is called the abdominal tonsil. Its most important implication is acute appendicitis when an innocent looking appendix can sometimes present with life-threatening peritonitis if left neglected or there is a management delay. Acute appendicitis is probably the most common surgical emergency in the world, and thus appendectomy is the most common emergency operation performed worldwide. ¹ Differential growth of the cecum is responsible for the different positions of the veriform appendix. Most common among all is retrocecal (74%), others are pelvic (21%), paracecal (2%), subcecal (1.5%), pre-ileal (1%), and post-ileal (0.5%). The appendicitis mostly presents with pain in the epigastrium or paraumbilical region migrating to the right iliac fossa associated with nausea, vomiting, and fever, but different positions of the appendix are responsible for different presentations in a case of acute appendicitis. The features of appendicitis may vary among adults, children, and elderly. The typical features of appendicitis may be absent in the post-ileal appendicitis. The patient may present with diarrhea and marked retching. Typical history of migration of pain is absent. This may cause the unwanted delay in diagnosis and cause generalized peritonitis if appendix perforates. ²

CASE REPORT

We present the case of a 40-year-old male who presented to the outpatient department with the history of pain in the lower abdomen just below and toward the right of the umbilicus. He gave history of nausea and mild fever. There was history of anorexia. The patient has had three episodes of loose stools. The patient complained of dysuria and frequency of urination. There was no history of hematuria. On examination, the patient was febrile and had tenderness just below and toward the right side of the umbilicus. The blood investigation showed a total leukocyte count of 10000/mm cube with 74% neutrophils. Urine analysis showed 6-8 pus cells per high power field. An ultrasound examination of the abdomen was normal. So, the patient was started on intravenous ceftriaxone and analgesics along with intravenous fluids. But even after 24 h, the patient complained of pain and anorexia although the urinary symptoms resolved. The patient was taken up for surgery. Abdomen was opened through Mcburney’s incision converted to Rutherford Morrison incision as the cecum was slightly high up in position and the appendix was not visible. The omentum was present in the right iliac fossa. There was minimal free fluid in the right iliac fossa. A turgid and inflamed appendix, about 4 cm in length was seen passing below the ileum near ileocecal junction toward
the umbilicus (Figure 1). Appendectomy was done, and the patient sent home on the third post-operative day to come for follow-up on outpatient basis. The histopathological examination confirmed the diagnosis of acute appendicitis. The patient has recovered well.

**DISCUSSION**

The vermiform appendix is found attached to the cecum just below the ileocecal valve. It starts developing as a growth from the cecum from an 8th intrauterine week onward. The differential growth of cecum as compared to the appendix causes the different positions of the appendix. While the position of the base of the appendix remains fixed, the tip of the appendix could be retrocecal, retrocolic, pelvic, paracecal, pre-ileal, or post-ileal in position. The appendix could be 1–30 cm long but usually is between 6 and 9 cm in length. The appendix is not considered vestigial organ anymore in human beings rather it is a lymphoid organ. The most important clinical manifestation is its inflammation. Acute appendicitis is the most common surgical emergency worldwide. Acute appendicitis can be seen in all the age groups but is most common in 10-30 years age group. The luminal obstruction of the appendix caused by lymphoid hyperplasia leads to raised intraluminal pressure due to continued secretion of the mucus. This continuous rise of the intraluminal pressure leads to the failure of venous return and congestion of the appendix which causes translocation of the bacteria causing pus formation. Further increase in pressure arrests the arterial supply and leads to gangrene of the appendix. Now, the appendix can rupture and cause peritonitis. The patient complaints of pain in the periumbilical region or in the epigastrium initially because of the irritation of the visceral peritoneum but as the inflammation progresses, this pain localizes to the right iliac fossa because of the irritation of the overlying parietal peritoneum. The patient may complain of nausea or vomiting. The patient may have fever. Anorexia is almost always present in acute appendicitis. However, the features may not always be the same. Retrocecal appendicitis may not have tenderness that much defined due to the overlying gas filled cecum. The psoas spasm may cause the patient to flex his leg which when extended causes pain. A pelvic appendix may irritate the rectum to cause diarrhea, or may present like urinary tract infection. There may be tenderness in the pouch of Douglas on the digital rectal examination. There may not be any shift of pain in pre-ileal or post-ileal appendicitis. The pain may be localized around the umbilicus and patient may present with retching and diarrhea. The importance of different positions of the appendix in acute appendicitis lies in the fact that it causes unnecessary diagnostic delay, and the treatment may be delayed subsequently. In the 19th century, the mortality rate because of appendicitis was approximately 65% which now is about <1%, thanks to the newer antibiotics and improved surgical techniques. There are many diagnostic tools for acute appendicitis, but the Alvarado score is the most commonly used one which makes use of the signs, symptoms, and laboratory investigation. Ultrasound and computed tomography scan of the abdomen aid in the diagnosis but still the clinical acumen of the surgeon is the most important factor. The diagnostic accuracy can be improved by repeated clinical examination. The treatment of acute appendicitis is appendectomy. However, medical management can be tried where surgical facilities are not available or delayed, and the patient is stable. An appendicular lump can be managed conservatively by Ochsner–Sheren regimen, including hospitalization of the patient, intravenous fluids, antibiotics, analgesics, and repeated clinical examinations. The emergency appendectomy is the most commonly performed operation worldwide. Reginald Fitz coined the term “appendicectomy” and Kronlein did the first appendectomy for acute appendicitis in 1886. McBurney described the position of the base of the appendix at the McBurney’s point where the three teniae coli meet and described the most commonly used incision for appendectomy. Semm was the first person to perform the laparoscopic appendectomy.

**CONCLUSION**

Appendix is no more a vestigial organ. Its inflammation is common and a surgical emergency. Not all the cases will present with classical features of appendicitis. The different positions of the appendix can cause atypical presentations. These atypical cases are difficult to diagnose and usually present late with a more serious clinical picture. The key to diagnosis is patient history, good clinical knowledge, and repeated examinations. Treatment of choice is appendectomy.

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