

CASE REPORT



Retroperitoneal duodenal ulcer mimicking appendicitis associated with Valentino's syndrome – A rare case report

G. Naga Karthik¹, E. Bala Bharathi², Anji Naik³

¹Department of Pediatric Surgery, Konaseema Institute of Medical Science and Research Foundation, Amalapuram, Andhra Pradesh, India, ²Department of General Surgery, Konaseema Institute of Medical Science and Research Foundation, Amalapuram, Andhra Pradesh, India, ³Department of Urology, Konaseema Institute of Medical Science and Research Foundation, Amalapuram, Andhra Pradesh, India

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Correspondence:

Dr. G. Naga Karthik, Department of Pediatric Surgery, Konaseema Institute of Medical Science and Research Foundation, Chaitanya Nagar, Amalapuram, Andhra Pradesh, India.
Phone: +91-9640790427.
E-mail: nkarthikg1982@gmail.com

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Abstract

Valentino's syndrome is a rare presentation of retroperitoneal perforated peptic ulcer disease Ulcer, which can present as a right iliac fossa tenderness mimicking acute appendicitis (AA). The purpose of the report is to highlight on rare presentation of right iliac fossa (RIF) tenderness in a suspected case of AA, later diagnosed to be Valentino's syndrome. We report a case 60 years old patient who presented with pain in the right groin associated with fever. The diagnosis was inconclusive after routine examination and investigations; therefore, an exploratory laparotomy was performed. An exploratory laparotomy revealed a retroperitoneal perforation of posterior wall of duodenum which was followed by the graham's patch repair. Postoperatively, antibiotics were prescribed and the patient was discharged without any complication. A differential diagnosis of Valentios syndrome for perforated duodenal ulcer must be considered, while examining a case of pain in the RIF. The final diagnosis may be intraoperative; however, contrast-enhanced computed tomography scans remain gold standard.

Introduction

Acute appendicitis (AA) is most common disorder presenting to the emergency department with the right lower quadrant pain. The symptoms presented for AA may be misleading or cause a delay evident from the reported 5–15% of diagnostic error.^[1] AA may present in few atypical ways, namely, as pain in right iliac fossa (RIF) or with diffused abdominal pain (when associated with diffuse peritonitis).^[2] The is a wide arrange of medical disorders that present mimicking AA and needed to be systematically ruled out as a part of diagnostic work up. These include tubo-ovarian abscess, colorectal cancer, sigmoid diverticulitis, acute ileocecal enterocolitis (typhlitis), gastric or duodenal perforated ulcer (Valentino's syndrome), cecum tumors, a tumor of the appendix, perforated acute cholecystitis, infectious ileocecitis, Epiploic appendagitis (epiploic appendix torsion), mesenteric adenitis, and right colonic diverticulitis pseudomembranous colitis and cytomegalovirus lesion in human immunodeficiency virus (HIV) patients.^[1] The differential diagnosis is further complicated in women and additionally ovarian torsion, necrotic or hemorrhagic leiomyomas, endometriosis, and ovarian vein thrombosis are to be considered as well for AA.^[1,3]

Valentino's syndrome is a rare differential diagnosis to appendicitis and its presentation as pain in RIF can occur due to perforation of a duodenal peptic ulcer. The fluid that emerges from the perforated ulcer tracks down the paracolic gutter to the RIF. The collected fluid evokes pain that mimics AA.^[3] The occurrence of this is rare and less reported in literature. We present a clinically suspicious appendicitis which was found to be a retroperitoneally perforated duodenal ulcer, diagnosed intraoperatively.

Case Report

A 60-year-old male patient had presented to emergency department with complaint of pain in the right groin since 3 days. The pain was described intermittent, stabbing in nature, and non-radiating/localized and associated with fever. The fever lasting for 4 days was high grade, intermittent without any chills or rigor. The medical history revealed that he was on proton pump inhibitors (PPIs) for peptic ulcer disease (PUD) since 10 years. The family, past surgical, and other personal histories (diet and bowl-bladder related) were non-contributory. The examination showed that patient was restless and dehydrated. He had pallor,

a blood pressure 100/60 mm of Hg and pulse rate 100/min, oxygen saturation of 98%. The abdominal examination revealed tenderness in the RIF with guarding and decreased bowel sounds. The clinical signs of McBurney, Rovsing, and obturator were positive with an Alvarado score 7/10. The working diagnosis of AA was assigned and patient was evaluated further. The investigations were remarkable except for decreased leukocyte count (2150 cells/cu.mm), low hemoglobin (9.8 mg/dL), a raised C reactive protein (CRP) of 0.304 mg/dL, and raised erythrocyte sedimentation rate. The serological tests were negative for HIV and hepatitis B, C virus infections. A diagnostic abdominal ultrasonography demonstrated "probe tenderness" in the RIF and anechoic appearance (fluid collection) below the caecum. The plain radiograph of erect abdomen showed normal bowel loops and absence of gas under the diaphragm [Figure 1]. A contrast-enhanced computed tomography scan (CECT) of the abdomen was performed being inconclusive for a definitive diagnosis. The CECT showed multiple pockets of free air in the right iliac region and paracolic gutter till subhepatic region and without a specific site of perforation or breach in the appendix ruling out the pathologies associated with appendix inclusive of AA [Figure 2].

An exploratory laparotomy was planned after obtaining a written informed consent in English and local language. The patient underwent pre-anesthetic assessments and nasogastric tube was placed as per need. The surgical site was prepared as per standards and abdomen was approached through a midline incision. The appendix was found to be normal with no peritoneal collection [Figure 3]. Further, on exploration and on mobilizing the caecum and ascending colon, there was bile stained fluid with food particles [Figure 4]. There were no perforations noted in ascending colon and caecum.

An extensive Kocher maneuver was performed which revealed a retroperitoneal perforation (approximately 3 mm × 4 mm) of posterior wall of duodenum at the level of D1 [Figure 5]. The Graham's patch repair was done. The patch repair briefly induced

selection of an appropriately-sized tension-free, well-vascularized omentum that was used to plug the perforation. The omental patch was secured by interrupted sutures placed through healthy duodenum on either side of the ulcer. The seal of the patch was confirmed with absence of bubbles, when air was passed through patient's nasogastric tube.

Antibiotic employed was tazobactam with piperacillin which was started 1st pre-operative day continued till 7th postoperative day. Pantoprazole with domperidone was administered along with the antibiotics. The post-operative course of the patient was uncomplicated and he was discharged on the 9th day after surgery.

Discussion

The RIF pain is a common presentation of a surgical problem. A correct diagnosis can usually be made by a combination



Figure 2: Contrast-enhanced computed tomography of abdomen showing multiple pockets of free air in the subhepatic, right paracolic, and right iliac regions



Figure 1: Erect radiograph of abdomen showing normal bowel loops and no gas under the diaphragm

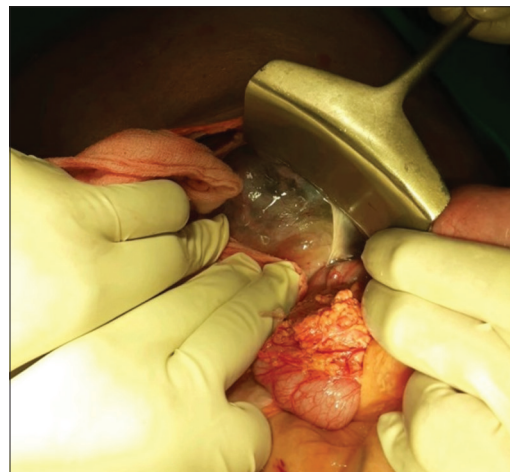


Figure 3: Intraoperative view of abdomen showing no intraperitoneal collection/retroperitoneal collection

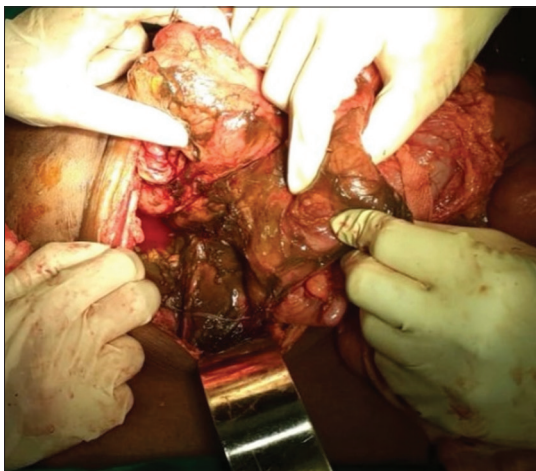


Figure 4: Intraoperative view of abdomen showing bile stained fluid with food particles after mobilizing caecum and ascending colon

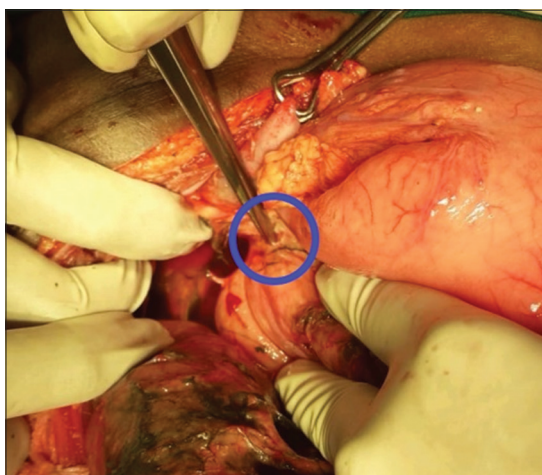


Figure 5: Perforation of posterior wall of duodenum (pointed with forceps) after an extensive Kocher's maneuver

of history, examination along with specific investigations. The diagnosis is straightforward most of the times.^[4] Occasionally, RIF pain can present as a diagnostic dilemma to the clinician, as in the current scenario. The clinical history and physical examination are still the main tools to integrate the differential diagnosis of acute abdominal pain. The determinant factors for the appropriate diagnosis are location, characteristics, and accompanying signs of associated RIF pain.^[5] In a multinational study in which Mexico participated, 10,682 patients with acute abdominal pain were evaluated, it was determined that the four main causes were non-specific abdominal pain, AA, acute cholecystitis, and small bowel obstruction. The peptic ulcer perforation ranks in the 8th position.^[6] Thus, the initial working diagnosis in our case was AA, considering these facts.

The gastric and duodenal ulcers are often collectively referred to as PUD because of the similarity in their pathogenesis and

treatment. *Helicobacter pylori* and nonsteroidal anti-inflammatory drugs (NSAIDs) contribute the most to PUD. Despite a decrease in reported ulcer-related mortality, from 3.9% in 1993 to 2.7% in 2006, over 4000 estimated deaths are caused by PUD each year.^[7] The antibiotics, PPIs, avoidance of NSAIDs, and advanced endoscopy techniques had contributed to reduction in the incidence of complications from PUD. The PUD requiring surgical intervention has decreased to approximately 11%.^[7] It is noteworthy to mention that complications from PUD include hemorrhage, obstruction, cancer, and perforation. The perforation has the highest mortality rate of any complication of ulcer disease, approaching 15%.^[7]

The Valentino syndrome occurs when fluid from perforated peptic ulcer collects in the right paracolic gutter and right lower quadrant leading to focal peritonitis and associated right lower quadrant pain. Initially, there would be diffuse or poorly localized pain over lower quadrants of the abdomen. It is named after 1926 incident of death of silent film star Rudolph Valentino to have a perforated ulcer leading to peritonitis, multiple organ system dysfunction.^[1] A case of Valentino syndrome, is complicated with time, due to local irritation by the collected gastric contents, pain becomes more localized to the RIF mimicking AA. There is wide range of differentials as described earlier in these cases and the perforation is found intraoperatively.^[8] The current patient presented with acute abdominal pain localized in the lower right quadrant with signs of peritoneal irritation and systemic inflammatory response (CRP raised). Thus, we are obligated to discard AA, after ultrasonography and CECT. The abdominal CECT scan is considered as the gold standard, with a 94% sensitivity and 95% specificity.^[9] Initial imaging other than CT may demonstrate free fluid around a normal appendix on ultrasound and free air around the kidney, or “veiled kidney sign” on abdominal radiographs.^[10] Thus, the diagnosis can be roughly employed at this point as done for the current case and previously reported cases.^[1-3,7]

An exploratory laparotomy was performed which revealed a retroperitoneal perforation of posterior wall of duodenum at the level of D1, which was diagnostic/surgical approach in previously reported cases.^[5,7] We resorted to surgical approach as CECT was inclusive. The omental patch repair employed in our case, was also most common practice when smaller ulcers are present (below 5 mm).^[5,7,8] A timely and successful surgery followed by course of antibiotics aided in recovery of our case without complications of life-threatening peritonitis.

Conclusion

The pain in the right lower quadrant must be carefully evaluated for retroperitoneal peptic ulcer perforation as a differential diagnosis to AA. The CECT imaging plays a critical role in diagnosing such clinically atypical cases. An early diagnostic laparoscopy can give a definitive diagnosis in case of Valentino syndrome and timely surgical intervention of perforated ulcer avoids complications carrying mortality.

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