

Duodenal Perforation Presenting as Acute Appendicitis: Valentino's Syndrome

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Abstract: *The pain in the right iliac fossa corresponds most commonly to Acute appendicitis. However, several other conditions may present with similar clinical profile. This study emphasis the fact that Valentino's syndrome has to be considered as the differential diagnosis in symptoms suggestive of acute appendicitis. Valentino's syndrome occurs due to leakage of digestive fluids from perforated peptic ulcer. This induces peritonitis and sometimes the fluids get collected in the right iliac fossa causing pain, hence mimicking appendicitis. Valentino's syndrome is a very misleading condition which has high mortality if proper evaluation and timely management is not done.*

Keywords: Appendicitis, Valentino's syndrome, Perforated peptic ulcer

1. Introduction

Right iliac fossa pain is a common presenting symptom in the emergency department and can result from a wide spectrum of conditions. The initial consideration in most patients is acute appendicitis; however, several other conditions may present with similar clinical and laboratory features, and therefore present a diagnostic challenge to the clinician.¹ Valentino's syndrome is one of such conditions, which may be fatal if not diagnosed and treated promptly. Valentino's syndrome is the retroperitoneal perforation of a duodenal ulcer causing right lower quadrant abdominal pain and thus mimics acute appendicitis.²

2. Case Report

A 40 year old male presented to ER with complaints of pain in right lower abdomen and fever since 6 days, vomitings since 2 days. He described pain as dull aching, progressive in nature, with no radiation and fever which is intermittent, low grade, not associated with chills and rigors. Vomitings are non bilious, non projectile. He denies history of trauma. He is a known alcoholic since 1 year. He is otherwise healthy with no reported medical problems or surgeries. There were no similar complaints in past. On physical examination he is conscious and coherent, well nourished. His vitals were Temperature – 98⁰ F, Pulse rate - 92/min, BP - 120/80 mm Hg, Respiratory rate - 20/min, SpO₂ - 98% on RA. Local examination revealed tenderness and rebound tenderness in right iliac fossa, with localised guarding. On investigating, complete hemogram showed leucocytosis with normal other blood investigations. On ultrasonogram of abdomen, the diagnosis of appendicitis could not be made conclusively, but presence of free fluid was noted in right iliac fossa. CT abdomen was suggestive of organized collection in right iliac fossa which may be possibly due to abscess formation/sealed off bowel. X-ray erect abdomen showed no free gas under dome of diaphragm.

He underwent a diagnostic laparoscopy which revealed pus in right iliac fossa extending to right paracolic gutter, appendix was found inflamed and adherent to surrounding area (Fig1). Laproscopic appendectomy with drainage of paracolic abscess was done. Drain was kept insitu. Post

operatively he had large amount of bilious drainage for which CT with gastrograffin study was done which showed mixed dense collection with air pockets extending to anterior portion of right kidney and adjacent to 2nd & 3rd part of duodenum. Exploratory Laparotomy was done. 0.5x0.5cm perforation in retroduodenum 2nd part was found (Fig 2). Perforation was sutured with Graham patch. Post operatively he had fever spikes. Ultrasound abdomen was done which showed 15x12cm collection anterior to right kidney. Under ultrasound guidance local drain was kept into abscess cavity in dependant position. Discharge from drains decreased and there were no further fever spikes. Finally all drains were removed and he was discharged.

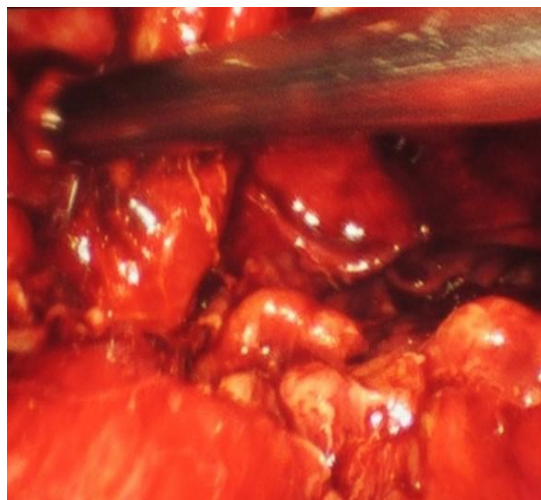


Figure 1: Diagnostic Laparoscopy showing inflamed appendix

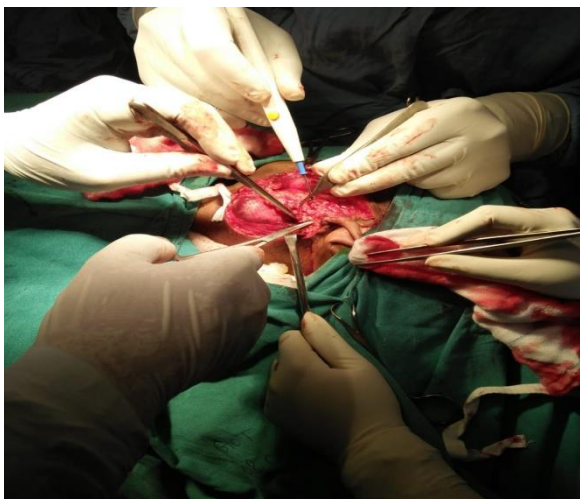


Figure 2: Exploratory Laparotomy showing duodenal perforation

3. Discussion

Valentino's syndrome occurs when digestive fluids tend to settle in the right iliac fossa following gastric or duodenal ulcer perforation, causing peritonitis and clinically mimicking acute appendicitis.² The syndrome takes its name from the 1920's silent film star Rudolph Valentino. In 1926, at the age of 31, he presented with pain in the right lower abdomen and was diagnosed and treated as a case of acute appendicitis at New York Polytechnic Hospital. After the appendectomy, however, he developed acute peritonitis, multiorgan failure, and later died. The autopsy revealed a perforated gastric ulcer as his cause of death.³

H. pylori and NSAIDs contribute the most to PUD. Complications from PUD include hemorrhage, obstruction, cancer, and perforation. A better understanding of the risk factors for PUD has led to a significant decrease in complications of the disease. Perforation has the highest mortality rate of any complication of ulcer disease, approaching 15%. Despite a decrease in reported ulcer-related mortality, from 3.9% in 1993 to 2.7% in 2006, over 4,000 estimated deaths are caused by PUD each year.⁴

Perforation of an anterior duodenal ulcer allows for free communication of duodenal and gastric contents into the peritoneal cavity. These contents will collect in dependent portions of the peritoneum, which is often the RLQ. If the patient seeks medical attention early in the course of the disease, he or she may have poorly localized pain. Localized pain to the RLQ can mimic acute appendicitis so closely that surgical exploration without imaging has led to the diagnosis being made intra-operatively.⁵

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.⁶ CT is the imaging modality of choice for the diagnosis of Valentino's syndrome which demonstrates air in the retroperitoneum on the right side, predominantly around the right kidney, fat stranding and retroperitoneal air in and around the region of the duodenum, and duodenal wall thickening.⁵

Definitive treatment for a perforated duodenal ulcer is surgical and it entails the closure of perforation by Graham's omental patch and post-operative antibiotics, intravenous fluids and proton pump inhibitors.⁷

4. Conclusion

In conclusion, this case study emphasize the importance of considering Valentino's syndrome in the differential diagnosis of causes of right iliac fossa pain. Laparoscopic exploration can easily diagnose it, highlighting another advantage of laparoscopic appendectomy compared to open procedure in the surgical management of acute abdominal pain. We have successfully identified and treated a case of Valentino's syndrome which usually has high mortality.

References

- [1] Patel NB, Wenzke DR. Evaluating the patient with right lower quadrant pain. *Radiol Clin North Am* 2015;53 (6):1159-70.
- [2] Sgro A, Petkar M, Benevento A, Pata F. Valentino's syndrome: An unusual presentation of a perforated peptic ulcer. *Transl Surg* 2017;2:106-8.
- [3] Wijegoonewardene SI, Stein J, Cooke D, Tien A. Valentino's syndrome a perforated peptic ulcer mimicking acute appendicitis. *BMJ Case Rep* 2012;28:1-3.
- [4] Christopher J. Amann, Andrea L. Austin, Sherri L. Rudinsky. Valentino's Syndrome: A Life-Threatening Mimic of Acute Appendicitis. *Clin Pract Cases Emerg Med.* 2017;1(1):44-46.
- [5] Mahajan PS, Abdalla MF, Purayil NK. First report of preoperative imaging diagnosis of a surgically confirmed case of Valentino's syndrome. *J Clin Imaging Sci* 2014;4:28.
- [6] Wang HP, Su WC. Images in clinical medicine. Veiled right kidney sign in a patient with Valentino's syndrome. *N Engl J Med* 2006;354 (10):e9.
- [7] Prabhu V, Shivani A. An overview of history, pathogenesis and treatment of perforated peptic ulcer disease with evaluation of prognostic scoring in adults. *Ann Med Health Sci Res* 2014;4 (1):22-9.