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Duodenal Perforation Presenting as Acute Appendicitis (Valentino Syndrome) in a Resource Limited Setting: A Case Report

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Abstract

Background: Right lower abdominal pain is a frequent emergency presentation with varied differential diagnoses. Valentino syndrome describes a perforated gastric or duodenal ulcer presenting as acute appendicitis due to tracking of gastrointestinal contents to the right iliac fossa.

Case Summary: A 28-year-old male presented with obstipation, non-bilious vomiting and acute lower abdominal pain. Examination showed tachycardia, tachypnoea and diffuse abdominal tenderness with guarding. Plain radiograph revealed pneumoperitoneum. Exploratory laparotomy revealed an inflamed appendix with purulent collection in the right iliac fossa, for which appendicectomy was performed. Further exploration identified a perforation at the junction of the first and second parts of the duodenum, which was repaired with a modified Graham patch. The postoperative course was uneventful.

Conclusion: Valentino syndrome should be considered in patients presenting with right lower abdominal pain, especially in resource-limited settings where advanced imaging is not readily available. Thorough intra-operative assessment is essential for correct diagnosis and management.

Keywords: Valentino syndrome; Duodenal perforation; Acute appendicitis mimic; Modified graham patch

Introduction

Right lower quadrant abdominal pain is one of the most common causes of emergency surgical consultation, with acute appendicitis being the most frequent diagnosis. However, uncommon conditions can mimic this presentation. Valentino syndrome is a rare clinical entity in which a perforated gastric or duodenal ulcer presents with right iliac fossa pain due to the tracking of gastroduodenal contents along the right paracolic gutter, leading to localized peritonitis and features suggestive of acute appendicitis [1,2].

The diagnosis of this condition is difficult pre-operatively, particularly in resource-limited settings where contrast-enhanced computed tomography is not routinely available [3]. We report a case of duodenal perforation associated with an inflamed appendix, consistent with Valentino syndrome.

Case Report

A 28-year-old male presented to the emergency department with severe right lower abdominal pain for three days. This was associated with constipation for seven days, inability to pass flatus and multiple episodes of non-bilious vomiting for three days.

On examination, the patient was tachycardic (heart rate 130 beats per minute) and tachypnoeic (respiratory rate 28 breaths per minute). Abdominal examination revealed diffuse tenderness in all quadrants with guarding and rigidity. Bowel sounds were absent.

Laboratory investigations showed leukocytosis with a total leukocyte count of 15,500/mm³ and 90% neutrophils. An erect abdominal radiograph demonstrated free air under the diaphragm with dilated small-bowel loops. Ultrasonography of the abdomen revealed free fluid in the right iliac fossa and pelvis.

A provisional diagnosis of perforation peritonitis was made and the patient was taken for emergency exploratory laparotomy.

Intra-operatively, approximately 1.5 L of purulent fluid was evacuated from the peritoneal cavity. Initial exploration revealed an inflamed appendix with a detached tip and surrounding purulent collection in the right iliac fossa. Appendicectomy was performed. On further systematic exploration, a perforation was identified on the anterior wall of the duodenum at the junction of the first and second parts (D1-D2), with bile



and gastrointestinal contents exuding from the defect.

The margins of the perforation were freshened and the defect was closed using a modified Graham patch repair. The postoperative recovery was uneventful and the patient was discharged in stable condition on postoperative day 10 (**Figure 1-4**).

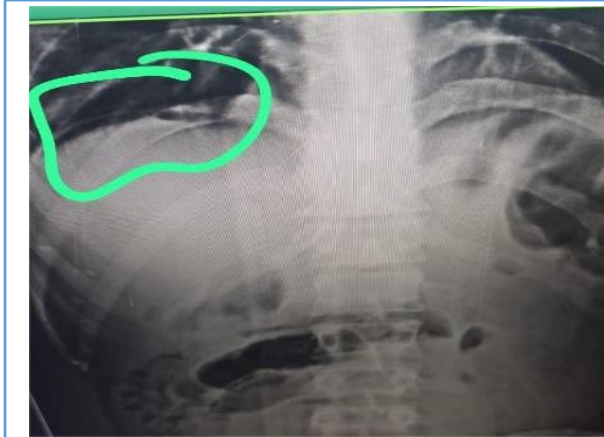


Figure 1: X-ray abdomen showing gas under diaphragm.

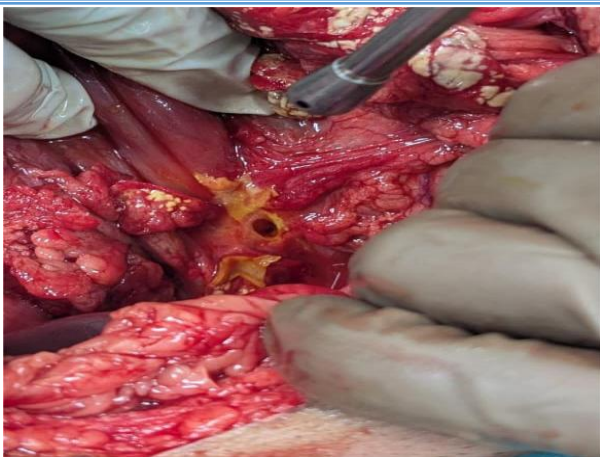


Figure 2: Intraop image depicting perforation in duodenum.



Figure 3: Intraop image showing repair of perforated site with sutures and a plug of Omental patch.

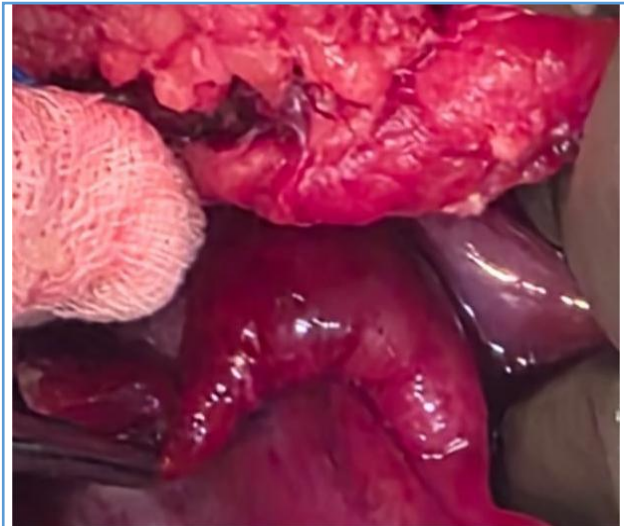


Figure 4: Intraop image showing inflamed part of appendix. Its tip was detached and adhered to nearby location.

Result and Discussion

Valentino syndrome represents an unusual presentation of perforated peptic ulcer disease in which leaked gastroduodenal contents track down the right paracolic gutter, resulting in localized peritonitis in the right iliac fossa and a clinical picture mimicking acute appendicitis [1,2].

Pre-operative diagnosis remains challenging. Cross-sectional imaging can help identify the primary site of perforation and associated collections, but such facilities may not be readily available in many centres [3]. In such circumstances, exploratory laparotomy remains both diagnostic and therapeutic.

In the present case, the inflamed appendix with localized purulent collection initially supported the diagnosis of acute appendicitis. However, the presence of pneumoperitoneum on plain radiography and diffuse peritoneal contamination prompted a thorough exploration of the abdominal cavity, which revealed a duodenal perforation.

The importance of a systematic intra-operative evaluation cannot be over-emphasised, particularly when clinical findings appear disproportionate to the presumed diagnosis. Similar observations have been highlighted in previously reported cases of Valentino syndrome [2].

Perforated peptic ulcer disease continues to be associated with significant morbidity, particularly in delayed presentations and in resource-limited settings [4]. The modified Graham patch remains a reliable and widely accepted technique for the repair of small duodenal perforations [5].

This case highlights the need for a high index of



suspicion for a proximal gastrointestinal perforation in patients presenting with right lower quadrant pain associated with generalized peritonitis or radiological evidence of free intraperitoneal air.

Conclusion

Valentino syndrome is a rare but important differential diagnosis in patients presenting with right lower abdominal pain. Duodenal perforation may coexist with an inflamed appendix and may only be identified on careful intra-operative exploration.

Awareness of this entity and a thorough surgical assessment are essential to avoid missed diagnoses and to ensure optimal patient outcomes, especially in resource-limited settings.

References

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