Valentino's Syndrome: from History to Images. A Case-Based Literature Review

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Summary

In the emergency setting, right lower quadrant pain is a common clinical scenario. While acute appendicitis is the most relevant cause, there is a wide differential diagnosis. Valentino syndrome is a rare entity in which gastric or duodenal perforation, usually secondary to peptic ulcer disease, presents clinically with right lower quadrant pain mimicking acute appendicitis. It has its origins in Rudolph Valentino, a famous American actor who died of sepsis following an undiagnosed perforated ulcer after an appendectomy. Nowadays, radiological images play a crucial role in this pathology, historically diagnosed using exploratory laparotomy. Through a clinical case and a review of the literature, we aim to describe the historical evolution of Valentino’s syndrome, illustrate its clinical and radiological characteristics and highlight the increasing role of imaging, particularly computed tomography, in its early prospective diagnosis and in guiding targeted treatment. Finally, it is important to consider this pathology when assessing acute abdominal patients with co-existing pneumoperitoneum and appendicitis.

Keywords. Computed tomography, appendicitis, acute abdomen, peptic ulcer perforation, peritonitis, right lower quadrant pain, Valentino’s syndrome.

Síndrome de Valentino: de la historia a las imágenes. Revisión de la literatura basada en un caso clínico

Resumen

En el ámbito de urgencias el dolor en fosa iliaca derecha es un cuadro clínico frecuente. Aunque la apendicitis aguda es la causa más relevante, existen otros diagnósticos diferenciales. El síndrome de Valentino es una patología infrecuente en la que una perforación gástrica o duodenal, generalmente secundaria a enfermedad ulcerosa péptica, se presenta clínicamente con dolor en el cuadrante inferior derecho, simulando una apendicitis aguda. Tiene su origen en Rudolph Valentino, un famoso actor estadounidense que murió de sepsis secundaria a una úlcera perforada no diagnosticada luego de una apendicectomía. Actualmente, las imágenes radiológicas tienen un papel fundamental en esta patología, históricamente diagnóstico-
cada mediante laparotomía exploradora. A través de un caso clínico y la revisión bibliográfica, nuestro objetivo es describir la evolución del síndrome de Valentino, ilustrar sus características clínico-radiológicas y destacar el papel cada vez más importante de las imágenes, especialmente la tomografía computada, para su diagnóstico prospectivo temprano y para orientar el tratamiento dirigido. Finalmente, es importante considerar esta patología en la evaluación de pacientes con abdomen agudo en los que coexisten neumoperitoneo y apendicitis.

**Palabras claves.** Tomografía computada, apendicitis, abdomen agudo, perforación úlcera péptica, peritonitis, dolor fosa iliaca derecha, síndrome de Valentino.

**Abbreviations**

CT: Computed tomography.
NSAIDs: Non-steroidal anti-inflammatory drugs.

**Introduction**

Valentino’s syndrome is a rare pathology caused by irritation of the peritoneum due to fluid from a perforated ulcer migrating into the paracolic sulcus. This condition may mimic acute appendicitis or other differential diagnoses of right lower quadrant pain such as ureteral colic, diverticulitis, diverticulum rupture, ovarian torsion, ruptured ectopic pregnancy, perforated cholecystitis, pancreatitis, and pelvic inflammatory disease.²⁻⁴

This entity requires surgical resolution.⁵ Correct and timely diagnosis is important because delay in treatment can increase morbidity and mortality.¹ However, prospective diagnosis based on imaging can be challenging. The main risk factors for peptic ulcers, such as overuse of NSAIDs, Helicobacter pylori infection, tobacco, stress, and irregular or unhealthy eating habits, among others, should be taken into account.¹ In this context, we aim to make a historical review of Valentino’s syndrome, highlight the role of computed tomography (CT), and provide key points for the early diagnosis of this entity.

**Case Report**

We present the case of a 52-year-old man with no known medical history who presented with a one-week history of right lower quadrant abdominal pain, a positive Blumberg sign on physical examination and elevated inflammatory parameters on laboratory tests. CT showed extensive diffuse intra-abdominal inflammatory changes with collections in the right iliac fossa (Figure 1) adjacent to the cecal appendix and distal ileum (Figure 2). There was also supramesocolic pneumoperitoneum (Figures 2 and 3), a subhepatic collection adjacent to the antral region containing fluid and gas, and an apparent focal discontinuity in the anterior wall of the pylorus (Figure 3).

**Figure 1.** Axial CT, portal phase. Extensive peritoneal inflammatory changes in the pelvic cavity with two abscesses (*)

**Figure 2.** Coronal CT, portal phase. Inflammatory changes in the right iliac fossa (arrow) with collections (*), and pneumoperitoneum adjacent to the pylorus (arrowhead)
The subsequent laparotomy confirmed a pyloric gastric perforation with secondary ileal and appendicular inflammatory changes, and included perforation of the appendix and distal ileum, all of which were surgically treated with ileal resection and gastric repair (Figure 4).

The patient had a favourable clinical course with postoperative antibiotic treatment, without further complications and was discharged after two weeks.

Discussion

Acute abdominal pain is one of the most common presenting symptoms in the emergency department, with a broad differential diagnosis ranging from benign and self-limited entities to pathologies with high mortality that more often requires surgery. The initial clinical approach attempts to narrow the differential diagnosis by anatomical regions, dividing the abdomen into quadrants. The main objective is to identify pathologies that require surgical intervention, such as acute appendicitis, and to differentiate them from non-surgical entities that can be managed conservatively. Clinical characteristics, laboratory parameters, and imaging are often used in this approach.

Although acute appendicitis is one of the most relevant and common pathologies to consider in the setting of right lower quadrant pain, there is a wide range of clinical mimics, including acute right colonic diverticulitis, Meckel’s diverticulitis, ileitis, colitis and even renal colic.

In women, gynecological causes such as ovarian torsion, ruptured ectopic pregnancy, pelvic inflammatory disease, or endometriosis should be considered.4

Valentino’s syndrome is a rare condition in which a gastric or duodenal ulcer mimics acute appendicitis, usually secondary to complicated peptic ulcer disease.1

This entity originates from Rudolph Valentino (Rodolfo Pietro Filiberto Raffaello Gugliemi di Valentina d’Antonguolla), an Italian actor based in the United States who starred in several well-known silent films of the 1920s. Known in Hollywood as the “Latin Lover”, he died in 1926 at the age of 31 from septic complications (peritonitis and pleuritis) of an undisagnosed perforated peptic gastroduodenal ulcer. This ulcer simulated appendicular abdominal pain and was treated surgically with an appendectomy, the final diagnosis being made at autopsy.2

Few cases are reported in the literature, with the most comprehensive review published in 2022, consisting of 31 patients.3 Its exact incidence and prevalence are unknown. Although this is an extremely rare presentation of peptic ulcer disease, it is highly relevant because it can be life-threatening if not treated correctly and promptly. Therefore, high suspicion and accurate diagnosis are required.

The peptic ulcer disease has a complex and multifactorial pathophysiology, including alteration of protective factors (prostaglandins) and aggravating factors (hydrochloric acid), resulting in gastric or duodenal mucosal necrosis. Known etiological factors include the presence of Helicobacter pylori, the use of non-steroidal anti-inflammatory drugs (NSAIDs), smoking, and less common conditiones such as Zollinger-Ellison disease, Crohn’s disease, and Behcet’s disease, among others.4 Peptic ulcer disease typically presents with upper abdominal pain that may improve with food and, in more severe cases, may be complicated by bleeding or obstruction of gastric emptying. In cases of a transmural perforation, it may present as an acute abdomen with signs of peritonitis. When gastric or duodenal intraluminal fluid, leaks into the right ili-
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This highlights the importance of knowing this rare entity in order to make a prospective and prompt diagnosis when necessary.2

Conclusion

Valentino’s syndrome is a rare but important entity in which radiologists play a critical role in its early and accurate prospective diagnosis. Contrast-enhanced CT is considered the modality of choice in the detection and characterization of this entity, and radiologists should have a high index of suspicion for signs of gastroduodenal inflammation in the setting of right lower quadrant pain.

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