

Unusual Acute Pancreatitis associated with Varicella-Zoster virus in immunocompetent

Raro caso de Pancreatite Aguda associada ao vírus Varicela-Zoster em imunocompetente

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Edilson Carvalho de Sousa Júnior

Specialist in Coloproctology

Institution: Departamento de Cirurgia - Universidade Federal do Piauí (UFPI)

Address: Ininga – Teresina, Piauí, Brasil

E-mail: edilson@ufpi.edu.br

Raimundo José Cunha Araújo Júnior

Specialist in Digestive Surgery

Institution: Departamento de Cirurgia - Universidade Federal do Piauí (UFPI)

Address: Ininga – Teresina, Piauí, Brasil

E-mail: rjuniorcirurgia@ufpi.edu.br

Vinícius Araújo do Vale

Medical Graduating Student

Institution: Centro de Ciências da Saúde - Universidade Federal do Piauí (UFPI)

Address: Ininga – Teresina, Piauí, Brasil

E-mail: vnc.vale@gmail.com

Bruna Benigna Sales Armstrong

Medical Graduating Student

Institution: Centro de Ciências da Saúde - Universidade Federal do Piauí (UFPI)

Address: Ininga – Teresina, Piauí, Brasil

E-mail: brunabenigna38@gmail.com

Arthur Augusto Siqueira Carvalho

Medical Graduating Student

Institution: Centro de Ciências da Saúde - Universidade Federal do Piauí (UFPI)

Address: Ininga – Teresina, Piauí, Brasil

E-mail: arthurasc98@gmail.com

Maxwell da Costa Reis

Medical Graduating Student

Institution: Centro de Ciências da Saúde - Universidade Federal do Piauí (UFPI)

Address: Ininga – Teresina, Piauí, Brasil

E-mail: maxwellreis688@gmail.com

Guilherme Nunes Miranda

Medical Graduating Student

Institution: Centro de Ciências da Saúde - Universidade Federal do Piauí (UFPI)

Address: Ininga – Teresina, Piauí, Brasil

E-mail: guilhermenmiranda1@gmail.com

ABSTRACT

Viral etiology represents less than 1% of acute pancreatitis (AP) in adults, even rarer if associated with varicella-zoster (VZ), having poor prognosis especially in immunocompromised. Reported 77-year-old male at emergency, with 24 hours of strong epigastric pain. Clinical signs with laboratory and imaging tests diagnosed AP. After clinical treatment, was discharged at 6th day. At follow up, exams excluded differential etiological diagnoses and, with the three mild annual herpes zoster crises, IgG strongly reactive for VZ virus and lumbosacral lesions, hypothesized herpetic pancreatitis. Herpetic AP in immunocompetent emphasizes thorough examination for etiological identification and better treatment targeting at emergency.

Keywords: Acute Pancreatitis, emergency care, virology, Varicella-Zoster, Herpes Zoster.

RESUMO

A etiologia viral representa menos de 1% da pancreatite aguda (PA) em adultos, ainda mais rara se associada à varicela-zoster (VZ), tendo mau prognóstico especialmente em imunocomprometidos. Relatado homem de 77 anos de idade em situação de emergência, com 24 horas de dor epigástrica forte. Sinais clínicos com testes laboratoriais e de imagem diagnosticados com AP. Após tratamento clínico, teve alta no 6º dia. No acompanhamento, os exames excluíram diagnósticos etiológicos diferenciais e, com as três crises anuais leves de herpes zoster, IgG fortemente reativa para o vírus VZ e lesões lombossacrais, hipotética pancreatite herpética. A PA herpética no imunocompetente enfatiza o exame completo para identificação etiológica e melhor tratamento visando a emergência.

Palavras-chave: Pancreatite Aguda, cuidados de emergência, virologia, Varicella-Zoster, Herpes Zoster.

1 INTRODUCTION

The varicella-zoster virus (VZV) has chickenpox as its initial manifestation, followed by latent infection and late reactivation as herpes zoster (HZ).¹ This reactivation has mechanisms not yet elucidated and usually occurs in thoracic nerves with the aging of the host.² Its classic presentation of a painful and/or itchy, unilateral and unidermatomal rash is sufficient for a clinical diagnosis.^{2,3} HZ visceral manifestations are atypical, leading to diagnostic errors on one of each eight patients.⁴ Although the viral etiology represents only 1% of cases of acute pancreatitis (AP), the association with VZV is even more rare.⁵ This case reports an improvement, with clinical treatment, of rare herpetic pancreatitis in immunocompetent.

2 CASE REPORT

77-year-old male was admitted by the emergency with strong, bar shaped, epigastric pain, which started 24 hours before admission. Denied alcoholism, smoking, trauma, hypertriglyceridemia, and previous abdominal surgery. Reported hypertension treated with Nebivolol and Omeprazole as a gastric protector.

On physical examination was conscious, acyanotic, afebrile, and anicteric. Reported pain on deep palpation in epigastrium and mesogastrium, decreased air-to-air noises, absence of abdominal distension, and no sign of peritoneal irritation. Laboratory tests (Table 1) and computed tomography (CT) (Figure 1) confirmed the diagnosis of AP with undefined etiology.

Figure 1. Total abdominal CT evidenced the densification of retroperitoneal fatty planes in the anterior pararenal space, involving the pancreas and discrete peripancreatic densification at the root of the transverse mesocolon in the right hypochondrium, adjacent to the head of the pancreas.



Source: Personal Collection.

Initiated intravenous antibiotic therapy with Ciprofloxacin (800 mg/day) and Metronidazole (1.5 g/day), parenteral hydration, and suspension of the oral diet. It evolved with an improvement of abdominal pain, acceptance of mild laxative oral diet from the 3rd day of hospitalization (DH), decreasing blood levels of amylase and lipase (Table 1) and discharge at the 6th DH.

Table 1. Laboratory evolution of the tests requested during hospitalization.

Lab tests	1 ^o DH	3 ^o DH	5 ^o DH	Reference value
Leukocytes, mm ³	21.350	15.730	10.860	4.000-10.000
Lymphocytes, mm ³	1.416	-	-	1.000-5.000
Lipase, U/L	43.160	4.075	351	<50
Amylase, U/L	8.029	2.646	121	<125
AST, U/L	30	21	-	5-40
ALT, U/L	23	17	-	7-56
PCR, mg/dL	-	57,5	37,8	<0,3
Urea, mg/dL	90	59	33	16-40
Creatinine, mg/dL	1,45	1,06	1,4	0,6-1,3

Source: Personal Collection.

One week after, at outpatient follow up, rashes and crusty lesions suggestive of HZ were identified in the lower lumbosacral and gluteus bilaterally (Figure 2). Serologies were performed for HZ, human immunodeficiency virus and cytomegalovirus, which resulted in IgG only positive for HZ and all IgM non-reactive, converging, with the reported three mild annual shingles crises, to the herpetic pancreatitis hypothesis. An outpatient magnetic resonance imaging (MRI) showed no lesions, polyps, or stones in the bile ducts. After the case resolution, a consent from the patient for the publication of the referred case was obtained.

3 DISCUSSION

AP is considered one of the main causes of hospitalization for gastrointestinal diseases worldwide, with a global incidence from 5 to 30 cases per 100,000 inhabitants/year.⁶ It presents 3-5% of overall mortality and 30% of lethality when accompanied with organic dysfunction, early etiological identification is essential for a favorable outcome.^{7,8,9} Biliary tract diseases and alcoholism account for 80%, while viral etiology accounts for less than 1%, of AP in adults and association with HZ is usually in immunocompromised individuals.^{5,10}

Although this association does not have its pathophysiology elucidated, the most accepted theory indicates that VZV latent in the posterior sensory nerve roots can reactivate as a visceral manifestation concomitant to a herpetic cutaneous lesion due to direct damage to the pancreatic acinar cell's membrane, leaking intracellular pancreatic enzymes and resulting in viral inclusion.^{5,11}

In the urgency reported, the clinical condition suggestive of AP led to a rapid stabilization which, complemented by imaging and laboratory tests, confirmed the diagnosis. According to the laboratory findings on admission (score II - Ranson's criteria) and CT imaging (score II - Balthazar criteria), the AP was classified as mild, which the literature described with morbidity < 8% and mortality rate < 3%, allowing a conservative treatment.¹²

Although the absolute value of pancreatic enzymes does not indicate severity, the exorbitant levels presented and rapid decline to baseline levels are consistent with the viral etiopathogenesis of inclusion to cellular deoxyribonucleic acid (DNA) without resulting in major organic dysfunction, thus explaining the good prognosis in high serum levels' viral pancreatitis as already demonstrated by the literature¹³⁻¹⁹ and confirming a possible viral etiology. Despite the undefined etiology at first, the rapid improvement of the patient, laboratory and clinically, supports the conduct adopted by the medical team as adequate for a positive outcome, even though the evaluation focused on the immediate exclusion of abdominal urgencies and their main causes resulted in an incomplete ectoscopic evaluation and prevented the identification of dermatological lesions suggestive of VZV etiology²⁰ before discharge (Figure 2).

Figure 2. Ulcer-crust lesions in the lumbosacral region and at the bottom, predominantly on the right side. Typical clinical presentation of advanced stages of infection, progressing to resolution.



Source: Personal Collection.

In an outpatient follow-up, the complementary tests directed to the etiological diagnosis (MRI and serological tests) ruled out possible differential etiological diagnoses, converging the reaffirmation of the rare herpetic pancreatitis hypothesis, in line with the: mean of three mild annual shingles crises reported by the patient, IgG for strongly reactive VZV and clinical diagnosis of herpetiform lumbosacral lesions.

Thus, the rare case described of herpetic viral AP in an immunocompetent patient with favorable outcome alerts importance of thorough clinical examination for early etiological

identification and better treatment targeting at emergency care, especially in the elderly population.

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