INTERNATIONAL SEVEN JOURNAL
OF HEALTH RESEARCH
ISSN: 2764-9415

Continuity cholecystitis secondary to peptic ulcer perforation: an unusual presentation: Case report

Colecistite por continuidade secundária a perfuração de úlcera péptica: uma apresentação incomum: Relato de caso

DOI: 10.56238/isevjhv3n1-011
Receipt of originals: 12/29/2023
Publication Acceptance: 01/18/2024

Helen Brambila Jorge Pareja[1], Zimar Tavares Borges Junior[2], Matheus de Souza Camargo[3].

ABSTRACCT

The diagnosis of acute cholecystitis is based on signs and symptoms presented by the patient and also on imaging tests. As the clinical picture may have different presentations depending on the patient's health conditions and age and age, sometimes the confirmation is totally dependent on the radiological reports, which in this case are examiner-dependent, which is inherent in human error, which can lead to incorrect diagnoses. We analyzed the medical record of a patient who was admitted to the emergency department complaining of abdominal pain and a letter written by her physician recommending emergency surgery to address acute cholecystitis. New tests were performed, which ended up discarding the previous diagnosis and, in the surgical procedure, a perforation of the peptic ulcer was evidenced, which led to cholecystitis, and, overlapping, both diagnoses made the case unusual and of atypical presentation.

Keywords: Cholecystitis, Peptic ulcer, Diagnosis.

1 INTRODUCTION

Acute cholecystitis is a surgical emergency, resulting from inflammation of the gallbladder and sometimes the biliary tract, which results in severe abdominal pain, especially in the right hypochondrium [1]. About 3 to 10% of all patients admitted to emergency departments complaining of abdominal pain have a final diagnosis of acute cholecystitis of lithiasic etiology[2].

Cholecystitis has evolutionary stages that can interfere with surgical decision-making. The pathological evolution of the condition is divided into three stages: edematous cholecystitis (up to 4 days after the onset of the condition), necrotizing (after the edematous phase and up to a maximum of 5 to 7 days after the onset of the acute condition) and suppurative (starting about 1 week to 10 days after the onset of the acute clinical picture). The best time to institute the surgical approach is in the edematous phase [2].

[1] Specialist in general surgery, surgery of the digestive system and oncological surgery of the digestive system Master's Degree in Health Sciences, UNOESTE/ SUS SP/ Hospital São Vicente
[2] Specialist in General Surgery, Brazilian Union of Colleges
[3] Undergraduate student in Medicine, Faculty of Medicine of Presidente Prudente

The presentation of the patient who developed an acute lithiasic cholecystitis is marked by abdominal pain of severe intensity, but localized in the right hypochondrium, which makes the diagnosis dependent on the aid of imaging tests, since the main symptom is nonspecific. There are criteria that involve clinical and imaging signs to assist in the correct determination of the etiology of pain. Among them are the Tokyo criteria (Table 1), which assess pain, abdominal physical examination findings, laboratory and imaging findings [1].

Table 1 – Tokyo criteria for diagnosing acute cholecystitis

A: Local signs of inflammation	**B:** systemic signs of inflammation	**C:** Picture
Sinal de Murphy	Fever > 37.5º	Typical findings of acute cholecystitis: wall thickening > 5 mm, distended gallbladder, radiological Murphy's, perivascular fluid, presence of stones.
Mass, pain, or defense on palpation in the right hypochondrium.	Increased C-reactive protein	
	Leukocytes > 10 x 109/L	

Source: adapted from Escartín et al, 2021.

According to the Tokyo criteria for the diagnosis of acute cholecystitis, the diagnosis will be suspected when there is the presence of criterion A associated with criterion B. Confirmation will occur in the presence of at least one criterion of each class, i.e., the same as the suspected criteria associated with the finding of imaging studies [1].

In order to carry out the correct management, it is necessary that the attending physicians know how to recognize and characterize the findings in the anamnesis and physical examination, as well as the imaging exams, which are evaluator-dependent, need to be correctly reported, so that there are no doubts about the diagnosis. The following case report presents the story of a patient who was admitted to the emergency room of the hospital, with a letter from her private gastroenterologist, in which he requested emergency care due to acute cholecystitis identified by ultrasound.

The patient was promptly admitted and hospitalized, but as the team proceeded with physical examinations, doubts were created regarding the diagnosis given in the first consultation by the patient's private doctor; The report of the abdominal ultrasound examination was also inaccurate in the information. This report narrates the conduct adopted by the team and the diagnostic findings that followed the patient's hospitalization.

2 METHODS

A data collection was carried out based on medical records. In addition, a literature review was conducted in databases, such as Pubmed and Lilacs, to compare the findings with what is available in the most current literature. The research was approved by those responsible for the medical records service and the ethics committee of the Santa Casa de Dracena Hospital.

3 CASE REPORT

A 61-year-old female patient was admitted to the emergency room of the hospital complaining of mild abdominal pain, very distressed and tachypnea, with no other relevant complaints. She brought with her a letter, made by the gastroenterologist consulted earlier in the day, which raised the possibility of acute cholecystitis after performing an ultrasound examination. The anamnesis and physical examination showed good general condition, normality of the cardiovascular and neurological systems, presence of bowel sounds and no sign of sudden decompression, with the clinical picture being reduced to mild abdominal pain.

The letter brought by the patient accompanied the utrassonography report, which did not have the dimensions of the gallbladder expressed; The general surgery team recommended hospitalization and preoperative laboratory tests, abdominal and chest X-rays were requested. Based on the patient's presentation and the findings on physical examination, the diagnosis of acute cholecystitis was questioned, and attention was also focused on differential diagnoses.

A new ultrasound was requested, which revealed a slight thickening of the gallbladder wall, incompatible with acute cholecystitis requiring immediate surgical intervention. The leukocyte count was slightly altered, with an infectious pattern on the first day of hospitalization, but the alteration normalized on the second day. The patient was kept in the ward for 6 days for follow-up, the abdominal pain regressed with analgesics and there were no new complaints or complications during this period.

The surgery was scheduled to take place on the seventh day of hospitalization, with the consent of the patient and family members. The procedure selected was a conventional cholecystectomy. After the incision, it was possible to verify a lot of adhesion, the epiplon was adhered to the abdominal wall, making it difficult to enter the cavity. Visualization of the gallbladder was impeded by the overlapping of loops of the duodenum and transverse colon, where there was also adhesion. The divulsion by planes was made apostolic, until it was possible to reach the gallbladder, where there was an abscess with a large purulent collection and intense odor.

After visualization of the abscess and the presence of a characteristic odor, gastric perforation was suspected; The gallbladder was folded to the right, allowing the visualization of a discontinuity of the stomach wall, where tamponade occurred by intestinal loops and by the gallbladder itself, preventing a more voluminous overflow of gastric contents into the abdominal cavity.

A cholecystectomy was performed, followed by ulceration and epiplonplasty to correct the perforation. A drain *Penrose* number 3 was placed on the right flank and, after cleaning the cavity, the synthesis by planes was performed and the patient was referred to the intensive care unit (ICU). The patient had to remain under hospital care for 12 days due to nosocomial pneumonia and was subsequently discharged. On her return 30 days after surgery, she was recovering well, with good healing of the incision and not reporting again the abdominal pain that led her to seek help.

4 RESULTS

After a reassessment of the case and a thorough analysis of the physical, imaging and laboratory tests, both those brought by the patient and those performed by the hospital, it is clear that the diagnosis did not refer to acute cholecystitis, but rather to a chronic condition of biliary inflammation due to continuity, as a result of a perforated gastric ulcer. Paying attention to the physical examination and requesting new tests, with more accurate reports, was essential to avoid an unnecessary emergency surgical intervention, which would have exposed the patient to greater risks.

With the correct diagnosis, it was possible to institute the appropriate therapy and make the proper preparation for the surgery, which resulted in better results and a complete recovery. At the outpatient follow-up visit, it was found that the patient had fully recovered and no longer complained of the epigastric pains that had been bothering her for a long time.

5 DISCUSSION

Ulcerative peptic disease affects the gastrointestinal tract, initially generating a lesion on the surface of the stomach mucosa. This ulcerated lesion may evolve with complications, and in 1/4 of cases there will be hemorrhage, and there may also be perforation of the gastric wall. Cases of perforation have a clinical presentation where the pain in the upper abdomen is quite prominent, and may also radiate to the upper limbs [3].

The process of lesion installation consists of excessive acidification of the gastric and duodenal environment, overlapping the regulatory mechanisms and attacking the mucosa. Bacterial infection by *Helicobacter pylori* It is one of the main risk factors for the development of these lesions and, thanks to the decrease in infections caused by this etiological agent, complicated cases of ulcers have decreased worldwide [4].

Perforation cases commonly occur in the duodenum, in a ratio of 7:1 in relation to other gastric areas. Generally, the affected patients are adults over 40 years of age and elderly people with comorbidities [5]. The pain settles suddenly, a priori in the upper quadrant of the abdomen, and may radiate from the epigastric region to the lower abdomen; Symptoms with pain radiating to the upper limbs indicate the presence of gas under the diaphragm [3,5].

Compared to the clinical picture of acute cholecystitis, for a professional, even if not very experienced, the abdominal sites affected in each situation are easy to distinguish in theory: while the pathology that affects the gallbladder produces pain mainly in the right hypochondrium, the one that affects the gastrointestinal tract affects more the upper quadrants [1-4]. However, cases that are not treated promptly, or smaller perforations, may end up being plugged or self-limiting, generating pain that, when described by the patient, may confuse clinical reasoning.

It is believed that the misdiagnosis made by the first physician who treated the patient in this report occurred mainly due to the non-specificity of the symptoms and the atypical picture that followed, and it was possible to make the final diagnosis only after visualization of the structures compromised during the surgical procedure. There are few texts in the literature that touch on cholecystitis by continuity as a complication of gastric ulcer perforation, which certainly makes the diagnosis even more obscure to make through clinical criteria alone.

Another feature that makes the clinical diagnosis of gastric ulcer perforation more complicated is the fact that in elderly patients the clinical presentation may be different from that expected in young patients. About half of patients will not have abdominal pain, and the absence of abdominal rigidity, indicating peritonitis, may be absent in up to 80% of cases [3]. In the case of the reported patient, there was the presence of prolonged abdominal pain, which had started days before, but not of an intensity that would make her seek an emergency medical service, but an elective consultation at her private doctor's office.

Regarding diagnostic imaging, chest and abdominal X-rays can be useful if they are able to detect the presence of free air in the abdominal cavity or under the diaphragm, however, this sign is of low sensitivity and may be present in only about 60% of cases. Computed tomography

is a more sensitive test, which in addition to detecting free air, is able to determine where the loss of continuity is where fluids are escaping, helping in the planning of the therapeutic approach [3,5].

To aid in the diagnosis of acute cholecystitis cases, the widely available imaging test that has good sensitivity and specificity is ultrasonography (USG). According to the Tokyo criteria (Table 1), the findings of the images of this examination are varied, and no more than one of them is necessary for a diagnostic suspicion to be confirmed [1]. In the case described, it was necessary to repeat the USG, due to the lack of detail than the first one, performed before hospitalization.

Regarding the underlying cause that led to the development of peptic ulcer, which later ruptured, it is highly recommended by the literature that a specific treatment be instituted to eradicate the ulcer. *Helicobacter pylori,* to avoid new lesions and recurrences of the clinical picture [6].

Finally, it is concluded that there is a need for imaging resources for a diagnosis of certainty in relation to suspicious cholecystitis. In addition, it is necessary to be aware that the USG test is examiner-dependent, which affects the sensitivity and specificity in some particular cases, as was the case of the patient in this case report. Regarding perforation due to ulcers, the examination did not detect the presence of air in the abdominal cavity or changes that would raise suspicion of this type of lesion, which is in line with the literature regarding imaging methods appropriate to the diagnosis of perforations due to peptic ulcer disease, with computed tomography being the most appropriate.

The picture described, after all, is atypical, and there are few records that describe cholecystitis due to continuity secondary to ulcer perforation. Attention to the symptoms and the reassessment of the patient by the team that provided care at the hospital were decisive for the establishment of the appropriate treatment and the avoidance of unnecessary emergency surgery. With new laboratory tests, imaging and surgical procedures, it was possible to rule out an inaccurate diagnosis, determine the real cause of the clinical condition and reestablish the well-being of the patient, who was already very well at the first return visit after hospital discharge.

CONFLICTS OF INTEREST

The authors declare that there is no potential conflict of interest that could interfere with the impartiality of this scientific work.

REFERENCES

Escartín, A., González, M., Muriel, P., Cuello, E., Pinillos, A., Santamaría, M., et al. (2021). Colecistitis aguda litiásica: aplicación de las Guías de Tokyo en los criterios de gravedad. Cirugía y Cirujanos, 89.

Sánchez, P. M., Salinas, C. L., Salas, M. A., Cea, B. M., Carranza, A. G. (2019). Asociación de parámetros analíticos y radiológicos en el diagnóstico de la colecistitis aguda. Revista de Gastroenterología de México, 84.

Linhares, A. M. R. C. (2011). Úlcera péptica complicada: abordagem diagnóstica e terapêutica [Trabalho de conclusão de curso]. Coimbra: Faculdade de Medicina da Universidade de Coimbra.

Narayanan, M., Reddy, K. M., Marsicano, E. (2018). Peptic Ulcer Disease and Helicobacter pylori infection. Missouri Medicine, 115.

Gonçalves, M. J. S. M. P. (2013). Tratamento cirúrgico das complicações por úlcera péptica [Trabalho de conclusão de curso]. Porto: Faculdade de Medicina da Universidade de Porto.

Kamada, T., Kiichi, S., Itoh, T., Ito, M., Iwamoto, J., Okimoto, T., et al. (2021). Evidence-based clinical practice guidelines for peptic ulcer disease 2020. J Gastroenterol, 56.