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Hemorrhagic Cholecystitis: A Challenge for the General Surgeon

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Abstract

Hemorrhagic cholecystitis is a complication of acute cholecystitis that been seen rarely. However, shows high mortality once the first symptoms are detected. Its diagnosis is a big challenge, as the main signs are often confused or dismissed guiding at more common clinical diagnosis. The case of a 35-year-old male is presented, with the principal symptoms described below: 3 days of abdominal pain, with evolution and discomfort in the right iliac fossa, which led to carry out a medical review that resulted in an emergency open appendectomy, where hemoperitoneum and cecal appendix were found without pathological data, so it was decided to approach by midline finding the origin of the bleeding in the gallbladder. Hemorrhage, due to inflammatory changes, causes ulceration of the mucosa and necrosis, distends the gallbladder and, finally, causes its rupture and hemoperitoneum. The most frequent site where a perforation appear is in the bottom of gallbladder, due to the inadequate vascular supply, deriving in lack of nutrients and a slowest repair process than the other parts of the organ. In most cases the treatment that exhibit the best results is the cholecystectomy.

Keywords: Hemorrhagic cholecystitis; Appendicitis; Acute abdomen; Hemoperitoneum; Exploratory laparotomy

Introduction and Importance

Hemorrhagic cholecystitis is a rare complication of acute cholecystitis, defined as bleeding within the gallbladder caused by infarction and erosion of the mucosa due to transmural inflammation of the gallbladder wall [1]. The incidence of severe acute cholecystitis is 6% [2]. Among these cases, only 8%-12% progress to hemorrhagic cholecystitis [3], while hemorrhagic cholecystitis with gallbladder perforation and massive bleeding is even less common, with an incidence of 2%-11% [4]. Less than 20 cases have been reported in the literature [4].

Symptoms closely resemble those of acute calculous cholecystitis. Common manifestations include pain in the upper right quadrant, fever, and leukocytosis. In some cases, hemobilia, melena, and/or hematemesis may occur [5]. Gallbladder perforation with hemorrhage carries a mortality rate exceeding 70% [6]. Abdominal ultrasound is the initial diagnostic method for patients presenting with right hypochondrial pain. However, hemorrhagic cholecystitis lacks specific pathognomonic signs on ultrasound, making it deceptive [5-6]. Therefore, abdominal computed tomography (CT) with intravenous contrast plays a crucial role in rapid and accurate diagnosis. CT can reveal the site of gallbladder perforation and hemoperitoneum, achieving a detection rate of 69.2% [7].

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Case Presentation

A 35-year-old male patient. No chronic degenerative diseases reported. No previous surgeries reported. He presented with colicky abdominal pain for 3 days, starting in the right flank and migrating to the right iliac fossa. He initially sought care from a private physician without improvement. As the pain worsened, he decided to visit our emergency department.

On physical examination, the patient appeared unwell, conscious, oriented, dehydrated, with loss of skin turgor. His abdomen showed no scars, was slightly distended, with decreased peristalsis, and exhibited generalized tenderness on deep palpation. Murphy's sign was positive, and McBurney's point was tender.

Vital signs upon arrival were: blood pressure 110/70 mmHg; heart rate 101 bpm; respiratory rate 22 rpm; temperature 36.5Â°C; oxygen saturation 99%. Laboratories show a Leukocyte figure 16.9, Neutrophils 81, Hemoglobin 14.9, Platelets 218, Glucose 88, Urea: 23.5, Cr 0.8, Na 140, K 3.9, Cl 102, BT 1.4, BI 0.8, TGO 64, TGP 37, Fa 101, Amylase 37, PCR 169, Tp 14.1, INR 1.31, TPT 27.9. No imaging study available. Open appendectomy was performed through a McBurney incision, revealing hemoperitoneum. Subsequently, a systematic exploration of the abdominal cavity was conducted, identifying the gallbladder as the source of bleeding (Figure 1 A,B). Therefore, a decision was made to proceed with cholecystectomy (Figure1C) and (Figure 2).

Clinical Discussion

The incidence of severe acute cholecystitis is 6%, of which only 8%-12% develop hemorrhagic cholecystitis, while hemorrhagic cholecystitis with gallbladder perforation and massive bleeding is even rarer, with an incidence of 2%-11%, with fewer than 20 cases reported in the literature.

Hemorrhagic cholecystitis (HC) with gallbladder perforation and hemoperitoneum, despite being a rare entity, has a high mortality rate, exacerbated by its challenging diagnosis, often starting as acute cholecystitis.

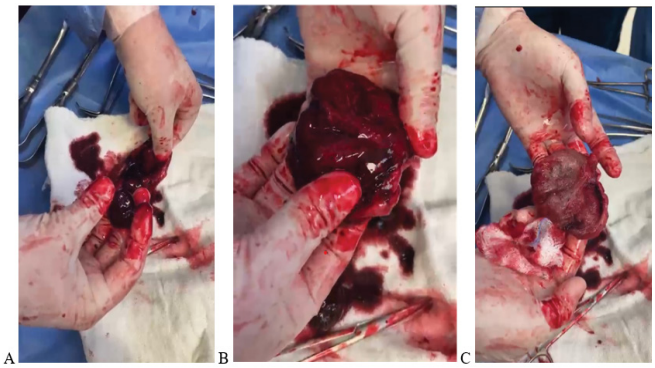

Figure 1: Presence of gallstone and hemorrhagic cholecystitis.

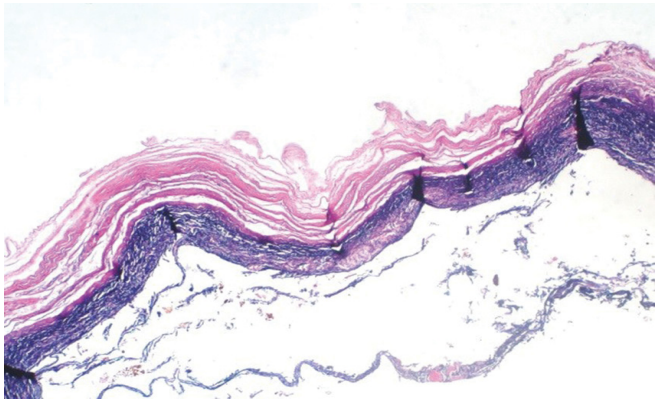

Figure 2: Histological examination of the gallbladder. Transmural necrosis is evident, along with a dense inflammatory infiltrate and underlying areas of hemorrhage (hematoxylin and eosin stain, 10x).

There is no comprehensive study on the management of patients with hemorrhagic cholecystitis, and only case reports and series are available; specific treatment guidelines do not exist.

Ultrasound and CT are the main diagnostic tools used for hemorrhagic cholecystitis. Ultrasound (with a sensitivity of 38.4%) reveals blood as hyperechoic material within the lumen, while CT (with a sensitivity of 69.2%) is also used for diagnosis.

Patient Perspective

The patient reported starting his symptoms three days prior to his evaluation (09.05.22) with localized right flank abdominal pain radiating to the right iliac fossa. He denies other symptoms and sought medical attention, where he was managed with unspecified antibiotics and NSAIDs, resulting in partial improvement [8]. On 08.05.22, abdominal pain recurred with increased intensity, becoming progressively generalized, prompting an emergency room visit [9]. On admission, he reported nausea, one episode of vomiting with gastroalimentary content, unquantified fever, asthenia, and adynamia. Consequently, he was admitted for surgical protocol.

The patient noted significant pain relief post-surgery, which improved his overall condition. He emphasized the importance of seeking medical evaluation promptly for any type of pain to prevent future complications. Furthermore, he expressed satisfaction with the management, progress, and improvement of his condition [10].

Methods

This case report has been reported in line with the SCARE Criteria.

Conclusion

Hemorrhagic cholecystitis is a rare but life-threatening

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complication of cholecystitis that should be included in the differential diagnosis of acute abdomen due to the hemoperitoneum it causes. Urgent surgical management should not be delayed.

Literature indicates that both calculous and acalculous cholecystitis can lead to hemorrhagic cholecystitis. Cases of hemorrhagic cholecystitis present in various ways. Sometimes, the gallbladder distends with blood and perforates into the peritoneal cavity, leading to peritonitis. In other instances, blood clots may enter the common bile duct, causing obstructive jaundice. Additionally, blood can enter the gastrointestinal tract, presenting as hematemesis or melena (hemobilia).

Currently, cholecystectomy remains the treatment of choice for acute hemorrhagic cholecystitis with massive intra-abdominal bleeding.

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Conflict of Interest

The authors declare that they have no conflict of interest in the writing of this manuscript.

Ethical Considerations

Confidentiality of data: The authors state that they have followed their workplace protocols on the publication of patient data.

Protection of people and animals: The authors state that no experiments have been carried out on humans or animals for this research.

Right to Privacy and Informed Consent

The authors declare that no patient data appears in this article.

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Authors Contribution

Gustavo Eduardo Sanchez-Martinez: Patient Care, Clinical case, writing; Luis Ramón Szymański-Florencia: Patient care, Clinical case; Mario Emmanuel Muñiz-Calderón: Writing; Diana Sofía Juárez-Mendoza: Translation; Provenance and peer review. Not commissioned, externally peer-reviewed

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