Empyema necessitatis in an elderly patient.
A rare pathological entity in modern times

Key words: Empyema necessitatis. Cholecystitis. Biliary fistula. Complication.

Dear Editor,

Empyema necessitatis is a rare pathological entity, and has been previously reported only a few times in the literature. The first case was described by Thilesus in 1670 (1). Generally this condition is characterised by an abdominal wall abscess which communicates with the gallbladder.

Case report

We report the case of a 94 year-old-woman with a history of NYHA class III heart failure, arrhythmia and gallbladder disease, who underwent an endoscopic biliary sphincterotomy due to coledocholithiasis at the age of 88. A cholecystectomy was dismissed because of the patient’s comorbidity.

The patient was admitted to our centre presenting with a one-month history of abdominal pain, which had increased during the seven days prior to the admission. She also complained of a mass located in the right upper quadrant of her abdomen, which had become larger over the last 48 hours. She denied having had fever.

Abdominal examination revealed an 11-cm mass in the right subcostal area, which was punctured and pus was obtained. The patient’s white blood cell count was $17.6 \times 10^3 \mu L$ with 88.9% segments. Radiological examinations were normal. Abdominal computed tomography (CT) was performed, revealing a calculous gallbladder in close contact with the abdominal wall, where it was a collection of $10 \times 6 \times 8.6$ cm with fluid, air and what seemed to be calculi. The findings were described as Empyema necessitatis due to cholecystitis (Fig. 1). Considering the comorbidity of the patient, an incision was performed and drainage of the abdominal wall mass was achieved. The patient made an uneventful recovery, and was fit for discharge 9 days postoperatively.

Discussion

Nayman first used the expression, Empyema necessitatis of the gallbladder, to describe the stage immediately preceding spontaneous or surgically-induced external biliary fistula (2).

These conditions tend to occur in elderly people with significant comorbidities, and mostly in women, with a female to male ratio of approximately 3:1 (1).

Actually, the incidence rate of Empyema necessitatis is very low, arising from the growing use of antibiotics and early, elective,
surgical laparoscopy for the management of patients with gallbladder disease.

Some authors have noted that only a maximum of 60 cases have been published in the literature worldwide up until 1979 (3). The most common mechanism of formation is adherence of an inflamed and distended gallbladder, usually via its fundus, to the parietal peritoneum of the anterior abdominal wall. Increasing distension leads to impairment of the blood supply to the gallbladder wall, which then perforates (1). In general, patients have suffered previous episodes of inflammation, so there are intraabdominal dense adhesions that prevent free intraperitoneal perforation. Consequently, a fistula is created between the point of the gallbladder that is perforated and the anterior abdominal wall (1).

Clinically, patients usually tolerate the pain associated with this disease over a long period of time, causing a delay in diagnosis (4). It is interesting to note that only half of patients reported having had a fever (4), and that only 49% of patients had significant symptoms referable to the biliary tract (2). However, the majority of patients presented with tenderness in their right upper quadrant, peritonism, and a wall abscess if *Empyema necessitatis* had already occurred, as in our case.

Differential diagnosis should include tuberculous *Empyema necessitatis*, which drains into the abdominal wall (5).

Treatment ranges from a cholecystectomy to a cholecystotomy with drainage of the abscess, as well as a thorough washing of the abdominal cavity if required. When the empyema is established, a laparoscopic approach is more difficult (6).

**Conclusion**

In modern times, *Empyema necessitatis* of the gallbladder is an infrequent complication of cholecystitis, which is associated with significant mortality in patients. Therefore, early cholecystectomy emerges as the treatment of choice for elderly people with few comorbidities and symptoms that refer biliary disease.

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M.ª Ángeles Boleko¹, Alejandro Biel¹, Daniel Andrada¹, Ramón Vilallonga¹² and Manuel Armengol¹

¹Department of General Surgery and Digestive Diseases. ²Unit of Endocrine and Metabolic Surgery. European Center of Excellence Hospital Vall d’Hebron. Universidad Autónoma de Barcelona. Barcelona, Spain

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