AN UNUSUAL COMPLICATION OF ACUTE CALCULOUS CHOLECYSTITIS: SUBDIAPHRAGMATIC ABSCESSION THROUGH TRANSHEPATIC BILIARY FISTULA

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A 73 year old man presented to hospital with an acute calculous cholecystitis and important associated comorbidities. Due to altered coagulation tests (INR value 3.2) the surgical treatment/cholecystectomy was temporized, in order to allow the deployment of surgical procedures in better / safer conditions. Before laparotomy, the clinical and paraclinical data prefigured a milder cholecystitis. After administration of fresh plasma the patient was operated, two days later. The intraoperative diagnosis was severest than before showing the occurrence of an unusual complication, namely a transhepatic fistula which penetrated towards supra-hepatic area. Surgical procedure consisted in viscerolysis, cholecystectomy, evacuation of suprahepatic collection and subhepatic / suprahepatic drainages. The postoperative evolution was favorable, with a good recovery and discharge after seven days. This case not only presents an uncommon complication of acute calculous cholecystitis, but also further emphasizes the fact that the clinical and paraclinical data are insufficient in some cases (multiple comorbidities, immunocompromised / elderly patients) for establishing of an accurate preoperative diagnosis. Intraoperative exploration and evaluation still remain the gold standard with respect to diagnosis for some surgical patients.

Key words: cholecystitis, subdiaphragmatic abscess, transhepatic biliary fistula, gallstones

Complication inhabituelle d’une cholécystite aiguë: abcès sous-diaphragmatique à travers une fistule transhépatique

Un homme de 73 ans s’est présenté à l’hôpital pour une cholécystite aiguë et les co-morbidités importantes associées. En raison de tests de coagulation modifiés (INR 3.2) le traitement chirurgical / la cholécystectomie a été temporisé afin de permettre le déroulement des procédés chirurgicaux dans de meilleures conditions. Avant la laparotomie, les données cliniques et paracliniques prévoyaient une cholécystite peu sévère. Deux jours plus tard, après l’administration de plasma frais le patient a été opéré. Le diagnostic peropératoire était plus sévère qu’auparavant montrant l’apparition d’une complication inhabituelle, à savoir une fistule transhépatique qui a pénétré la zone sus-hépatique. Le procédé chirurgical a résidé en la viscérolyse, la cholécystectomie, l’évacuation de la collection sus-hépatique et les drainages sous-sus-hépatiques. L’évolution post-opératoire a été favorable avec une bonne récupération et externement après sept jours. Ce cas, non seulement qu’il présente une complication rare de cholecystite aiguë, mais souligne aussi le fait que les données cliniques et paracliniques sont insuffisantes dans certains cas (comorbidités multiples, des patients immuno-déprimés / personnes âgées) pour établir un diagnostic pré-opératoire précis. L’exploration et l’évaluation peropératoires restent encore le standard d’or en ce qui concerne le diagnostic pour certains patients chirurgicaux.

Mots clefs: cholécystite, abcès sous-diaphragmatique, fistule biliaire transhépatique, calculs biliaires

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BACKGROUND

Cholecystitis is an inflammation of the gallbladder, most times due to gallstones. These gallstones can irritate the gallbladder mucosa, leading in addition frequently to blockage of the cystic duct. When it occurs, the cystic blockage causes a buildup/ increased pressure of the bile within the gallbladder, and subsequently to concentration of bile/ swelling of the gallbladder and often bacterial infection. The inflammation and swelling of the gallbladder can increase the tension within gallbladder wall, reducing thus the normal blood flow towards gallbladder wall, which can lead until severe complications like gangrene, gallbladder rupture/ peritonitis, abscesses, fistulas, empyema, gallbladder plastron, etc [1, 2].

The risk factors for development of gallstones and for occurrence of cholecystitis are frequently related to female gender, oral contraceptives, pregnancy, obesity, rapid weight loss, diabetes mellitus, increased age, etc [3].

Diagnosis of cholecystitis is based on anamnesis (previous biliary colics, nausea) and on the specific clinical signs and symptoms: right upper abdominal pain, nausea, bilious/ bitter vomiting, eventually fever, the Murphy’s sign that is positive. To note that elderly and/ or immunocompromised patients through chronic illness can present vague symptoms, being usually without fever or localized tenderness. The laboratory tests show an increased white blood count (may be absent in immunocompromised patients), while paraclinically is often used abdominal ultrasound [4].

The prognosis of uncomplicated cholecystitis is good; however about 25-30% of patients with cholecystitis require a surgical intervention for cholecystectomy. A delayed diagnosis of cholecystitis or the impossibility to perform an adequate surgical treatment can lead to severe complications, with increased morbidity and mortality [5, 6].

CASE PRESENTATION

A 73 year old man presented to emergency department of hospital for intermittent right upper abdominal pain, bilious vomiting and nausea. Anamnesis revealed that the patient was under therapy with acenocoumarol/ sintrom for cardiovascular affections (cardiopathy/ thromboembolism risk factors), and under treatment with oral antidiabetics.

At examination the patient presented a slight tenderness in the right upper abdominal area and Murphy’s sign positive, being afebrile. The laboratory tests revealed normal white blood cell count (6300/mm³), a normal level of bilirubin, a normal VSH and C reactive protein, blood glucose level of 145 mg/ dl, and an INR (international normalized ratio) value of 3.2.

Simple abdominal X-ray showed no hydro-aeric levels, while abdominal ultrasound (fig. 1) revealed a big gallbladder (in tension), with thickened walls and containing gallstones (greater than 5 mm in diameter). The other abdominal viscera were reported as being normal or near normal. Taking into account that the patient presented relatively vague symptoms, that the white blood cell count was normal and that the INR was increased, the starting strategy of therapeutic management was to temporize the surgical intervention and to administrate fresh plasma (in order to allow/ favor a decreasing of INR value), in addition to antibiotics, antispasmodic, analgesics, and a histamine H2 receptor antagonist.

After two days the level of INR was 1.3 and the surgical treatment was applied. Laparotomy revealed a subhepatic/ gallbladder plastron, acute calculous cholecystitis and a suprahepatic/ subdiaphragmatic collection fueled through a transhepatic biliary fistula (fig. 2). It was performed firstly viscerolisis, followed by evacuation of suprahepatic collection that led to decreasing of the gallbladder volume/ tension, which drained partially its content towards suprahepatic area. Afterwards it was practiced cholecystectomy, followed

Figure 1 - the gallbladder ultrasonography

Figure 2 - the suprahepatic fistula
by subhepatic and suprahepatic drainages. The post-operative evolution was favorable, with a good recovery and externalizing after seven days.

**DISCUSSION**

The diagnosis of cholecystitis is usually suggested by anamnesis (nausea, vomiting, abdominal pain, fever) and clinical examination, which are further strengthened by paraclinical (ultrasonography) and laboratory (white blood cell count) additional tests. Acute calculous cholecystitis is an emergency medical condition, imposing a fast surgical approach. Special situations (severe coagulation disorders, refusing surgical treatment, uncooperative patients, etc.) can lead to delay the surgical treatment (sometimes being even impossible/ unacceptable), which often contribute locally to evolution of cholecystitis towards occurrence of several and serious complications [4, 7].

In the case of this patient, the poor symptomatology and normal white blood cell count suggested that the evolution of cholecystitis was present in the form of a disease that could be temporized. In fact, the intraoperative diagnosis revealed that the local evolution has been actually very severe. Usually, the inflammation of cholecystitis leads to establishment of adhesions between gallbladder and gastrointestinal tract (duodenum, jejunum, transverse colon), which favor development of possible biliodigestive fistulas [8, 9]. It is not the case of our patient, to whom the subhepatic organs surrounded the gallbladder creating a plastron. The descending occurrence/ progression of the fistula were blocked, so that the appearance and advancing of the fistula were ascending (transhepatic) towards suprahepatic/ subdiaphragmatic area.

**CONCLUSIONS**

The patient presented to hospital with important comorbidities and an acute calculous cholecystitis. Due to an increased INR value the surgical treatment (cholecystectomy) was temporized, allowing the establishment of safer conditions for performing a surgical procedure. On one hand, even if the clinical and paraclinical data delineated a milder cholecystitis, the intraoperative diagnosis showed that the gallbladder distress was actually severer than it was anticipated. On the other hand, the local severity/ evolution was towards an unusual complication, namely towards a transhepatic fistula which penetrated towards suprahepatic area. Even if it is uncommon, such penetrating trajectory is however a relatively softer complication, because other alternatives could be to penetrate towards important biliary or vascular intrahepatic elements with subsequent severe if not infaust evolution.

**REFERENCES**