

Cholelithiasis Presented as Chronic Right Back Pain

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ABSTRACT

Chronic right back pain is a symptom in both biliary lithiasis and chronic cholecystitis. Ten percent of the population in the world suffers from biliary lithiasis. Only 20% are symptomatic. The first diagnostic test of choice is an abdominal ultrasound. When a suggestive clinical sign of biliary colic with negative abdominal ultrasound is identified, we should consider the option of carrying out an endoscopic ultrasound in order to rule out microlithiasis. The case discussed in the report presented with chronic right back pain, which is an atypical manifestation of biliary lithiasis and chronic cholecystitis. It is important to know about the atypical manifestations of the prevalent illnesses as well as the limits of the diagnostic tests, in order to avoid diagnostic delays which may cause complications that could worsen a patient's prognosis. This case should contribute to the medical knowledge and must have educational value or highlight the need for a change in clinical practice, especially in primary care.

Keywords: Abdominal ultrasound, atypical manifestation, back pain, biliary lithiasis, cholecystitis, cholelithiasis, chronic right back pain, clinical practice, diagnostic test, primary care

Introduction

Cholelithiasis presented as chronic right back pain in the case discussed in this report.

According to the clinical practice guidelines, gallbladder lithiasis is a common condition.^[1-4] Around two-thirds of the cases are asymptomatic, with the most frequent clinical presentation being the presence of attacks of acute abdominal pain. However, chronic right back pain persisting for months as a main symptom is uncommon. This report presents a patient with right back and subscapular pain for 9 months, demonstrating both biliary lithiasis and chronic cholecystitis. It is important to take into account the atypical manifestations of a prevalent illness as well as the limitations of the diagnostic tests, since the presence of gallstones can easily be missed or misinterpreted and delay in diagnosis may lead to complications which could worsen the prognosis of the patient.

Case Report

A 47-year-old male presented with a history of chronic neck pain that had started 10 years back. He underwent a magnetic resonance (MR) which showed cervical canal stenosis of degenerative etiology and also had an episode to self-limited abdominal spasmodic pain that appeared 10 years ago, considered as being functional by the gastroenterologist. Abdominal ultrasonography was performed twice, and both times it was normal.

One and a half years ago, the patient had right subscapular and paralumbar back pain at the T10–L2 level for 9 months. He described it as a permanent pain, which persisted throughout the day, with very intense exacerbations, especially in the evening and at night. These exacerbations usually lasted for 4-6 h, worsening on inhalation and sometimes radiating to subcostal and right hemithorax. These episodes became increasingly more frequent, as well as longer and more intense. The pain only partially remitted with resting. Neither was the intake of common painkillers of any use. The only feature of note on physical examination was the palpation of painful spinal processes from T10 to L2. No pain was reported during abdominal examination

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or during exacerbations. Blood analysis showed the level of gamma-glutamyl transpeptidase to be 79 U/l, while all the other laboratory parameters were normal. Abdominal computed tomography (CT) showed an extensive hepatic steatosis and a moderately relaxed gallbladder, with no stones observed within thin walls [Figure 1]. A diagnosis of musculoskeletal back pain was made.

Despite the regular use of analgesics and the rehabilitation treatment that followed, the patient presented a torpid evolution. Due to the pain in the right paralumbar area, an abdominal ultrasonography was performed, which showed moderate hepatic steatosis and a gallbladder with multiple inner calculi [Figure 2]. On diagnosis of cholelithiasis, a cholecystectomy was carried out, which revealed a gallbladder with a large number of yellow lithiasic structures, thereby confirming an anatomopathological diagnosis of chronic cholecystitis [Figure 3]. The previous pain completely disappeared after surgery and the patient remained asymptomatic 7 months later.

Discussion

Back pain affects 80% of adults at some point of their life and occurs at all ages. The first objective is to rule out a visceral disorder or a serious potentially life-threatening condition, which occurs in 2.7% of the cases.^[5] Back pain may be the manifestation of thoracic involvement as in esophageal disease, pleurisy, aortic aneurysm, or coronary heart disease, or an abdominal process, such as gastrointestinal ulcer, gastric cancer, pancreatic cancer, pancreatitis, or biliary pathology.

The diagnosis of cholelithiasis requires symptoms and evidence of gallstones on imaging studies. Blood analyses in uncomplicated biliary colic are normal. Only one-third of the cases of gallstones are symptomatic and give an indication for surgery. The most frequent symptomatic manifestation is episodic upper abdominal pain called biliary colic,^[6] with complications such as cholecystitis, acute pancreatitis, cholangitis, or choledocholithiasis being less frequent. Characteristically, this pain is severe and located in the epigastrium and/or the right upper quadrant. The pain may radiate to the upper back or the right scapula in 60% of the cases and might be associated with nausea or vomiting, usually occurring in the late evening or at night, in 80% of the cases. One study carried out to characterize the presentation in cholelithiasis reported that all patients described pain in the right upper quadrant of the abdomen, including the epigastrium.^[7] The pain was located in the right subcostal area (20%) and epigastrium (14%),^[7] which radiated to the back in 63%. Chronic cholecystitis is a common disorder of a lithiasic gallbladder. In fact, chronic cholecystitis is thought to be a result of a delay in diagnosis.

The test of choice to diagnose cholelithiasis is transabdominal ultrasound, with a sensitivity and specificity greater than 95% for detecting gallstones larger than 4 mm.^[8] Abdominal CT scan has a very low sensitivity and gallstones may be visible due to most being isodense.^[8] Microlithiasis (stones <3 mm in diameter) is

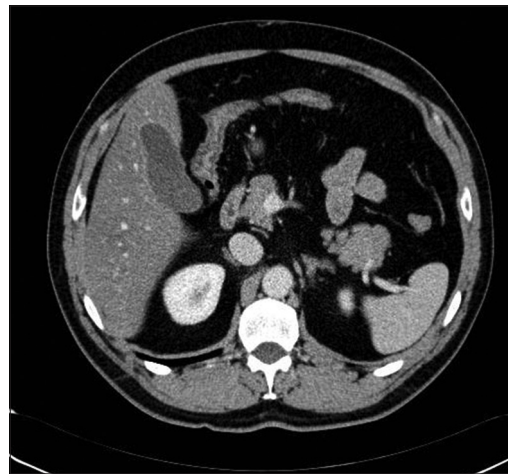


Figure 1: Abdominal CT: Gallbladder without gallstones

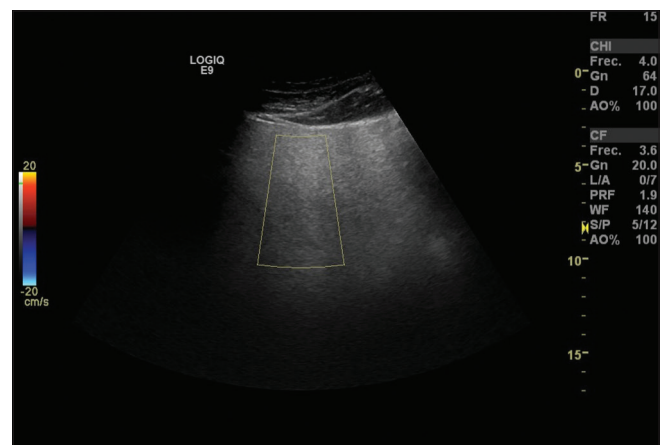


Figure 2: Abdominal ultrasonography: Gallbladder with multiple gallstones

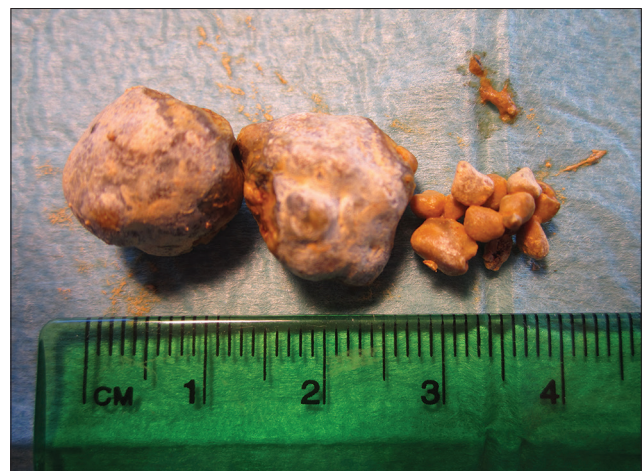


Figure 3: Multiple gallstones

not detectable by transabdominal ultrasonography; however, it may cause complications such as acute pancreatitis. In some patients, it may be detected by endoscopic ultrasonography. The diagnosis can be confirmed by the detection of biliary crystals by microscopic examination of bile collected from the duodenum.^[9]

In patients with a clinical history of biliary colic with negative transabdominal ultrasonography, endoscopic ultrasonography is an important diagnostic tool, since it can detect microlithiasis in a proportion of patients ranging from 41 to 78%.^[10] Patients with pain and a negative abdominal ultrasound show an endoscopic ultrasound and/or a positive analysis of the bile. Most of these patients show positive results on cholecystectomy, with resolution of abdominal pain and improvement in their quality of life.^[11,12]

Conclusions

Non-vertebral causes such as the presence of gallstones should be considered in patients with back pain. Physicians should be aware of atypical manifestations of common diseases, so as to avoid diagnostic delays. Gallbladder disorders should be taken into account in patients with dull, undefined right back pain, despite a normal physical examination. Abdominal ultrasound should be chosen as the first diagnostic procedure when considering gallstones, since CT scans have a very low sensitivity for their detection. In a patient with a typical clinical report of biliary colic and a negative abdominal ultrasound, an endoscopic ultrasound may be carried out in order to rule out biliary microlithiasis. This was the case of our patient in whom the abdominal ultrasonography was normal 5 years earlier, thereby making correct differential diagnosis crucial.

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