

## Case Report

# Gallbladder diaphragm: about a case

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### ABSTRACT

Diaphragm gallbladder is a very rare anomaly of gallbladder embryogenesis. This malformation is very rare in adults and represents 0.1% of gallbladder anomalies. It can remain asymptomatic for a long time and be discovered fortuitously during a radiological examination for another pathology or be revealed by chronic abdominal pain or by a complication such as cholecystitis or biliary peritonitis. We report the observation of a 34 years old woman with chronic hepatic colic. The biological work-up including a blood count, a hepatic cytolysis and cholestas and CRP determination did not reveal any abnormality, whose morphological examinations concluded to an uncomplicated diaphragm gallbladder. A laparoscopic cholecystectomy was performed. The post-operative course was unremarkable. The intraoperative finding by opening the cholecystectomy specimen confirmed the diagnosis of a diaphragm gallbladder. Histological study confirms the diagnosis of diaphragm vesicle cholecystitis. In this document, we described the clinical and radiological characteristics of this rare anomaly.

**Keywords:** Hepatic colic, Gallbladder diaphragm, Cholecystectomy

### INTRODUCTION

Congenital anomalies of the gallbladder are rare and have been classified into malformations of shape, number, site, size. These anomalies can be asymptomatic or discovered accidentally or can lead to a wide range of complications.<sup>1</sup> We report the case of a patient admitted for chronic hepatic colic with ultrasound evidence of a diaphragm of the gallbladder.

### CASE REPORT

The patient was 34 years old, without any notable history, who presented in consultation for chronic hepatic colic evolving since adolescence. The clinical examination was unremarkable. The biological work-up including a blood count, a hepatic cytolysis and cholestes and CRP determination did not reveal any abnormality. On the other hand, the abdominal ultrasound came back in favor of an uncomplicated diaphragm gallbladder, which strongly

explained the symptomatology (Figure 1). The patient was put under medical treatment and scheduled for laparoscopic cholecystectomy. The opening of the surgical specimen showed the presence of a diaphragm dividing the gallbladder into two compartments (Figure 2). The post-operative course was unremarkable.



**Figure 1: Ultrasound image showing the vesicular diaphragm.**



**Figure 2: Surgical specimen showing the diaphragm of the gallbladder.**

## DISCUSSION

The occurrence of hepatic colic is most often synonymous with gallbladder lithiasis. Exceptionally, they can reveal a rare anomaly of vesicular embryogenesis which is the vesicular diaphragm.

The development of the gallbladder takes place from the caudal part of the hepatic diverticulum of the foregut. This caudal part is a solid structure that vacuolates after the seventh week of gestation and the alteration of this embryonic process can be the cause of anomalies of the gallbladder affecting its location, shape or number.<sup>2</sup> Thus, the diaphragm of the gallbladder can be explained by an incomplete vacuolization giving an hour glass vesicle with two segments fundial and infundibular.<sup>3</sup>

This malformation is very rare in adults and represents 0.1% of gallbladder anomalies. It can remain asymptomatic for a long time and be discovered fortuitously during a radiological examination for another pathology or be revealed by chronic abdominal pain or by a complication such as cholecystitis or biliary peritonitis.<sup>4</sup> The revelatory symptomatology in our patient was chronic hepatic colic.

The radiological diagnosis is confirmed by ultrasound which remains the examination of choice as it is the most accessible, least invasive and least expensive allowing the study of the morphology of the gallbladder and its contents. It shows intra luminal septa dividing the

gallbladder into two or more compartments. The CT scan shows, in addition to malformations, the presence of associated complications such as acute pancreatitis or peritonitis. Magnetic resonance imaging is currently the best examination in the study of biliary malformations with a lesser accessibility than the first two examinations. In our case, the ultrasound examination was sufficient to make the diagnosis given the uncomplicated nature of the pathology.<sup>5</sup> In our case, ultrasound confirms the diagnosis by showing septation in the gallbladder.

The radical treatment for a symptomatic vesicular diaphragm is laparoscopic cholecystectomy. However, in case of serious complications or technical difficulties, laparotomy takes the lead. Our patient benefited from a laparoscopic cholecystectomy with the procedure being carried out without incident or notable difficulty. The opening of the operative specimen determined an alithiasis diaphragm vesicle. The anatomopathological study showed the appearance of chronic cholecystitis predominantly on the fundus side.

## CONCLUSION

The diaphragm bladder is a rare congenital malformation, of ten unrecognized, which can be exceptionally responsible for chronic and recurrent abdominal pain. Thanks to imaging, its diagnosis can be made preoperatively. Laparoscopic cholecystectomy remains the treatment of choice in uncomplicated forms.

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