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Short commentary Open Access

Ciliated Foregut Cyst of Gallbladder: A Little Known Entity

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Abstract

Ciliated foregut cysts are rare masses that develop from the tissues which remain from embryological foregut development. In the literature, a few cases have been described in various organs so far. The solitary cysts are characterized by ciliated pseudostratified columnar epithelium. They are usually located above the diaphragm but they can also arise in relation to the liver, gallbladder and pancreas. Although rare, there is a risk of development of squamous cell carcinoma from these cysts that typically bear benign features. Prognosis following the development of carcinoma is poor. Congenital gallbladder cysts are detected rather rarely. The diagnosis is suspected on imaging. Treatment using a laparoscopic surgical method is the first preference.

Keywords: Foregut cyst; Congenital cyst; Gallbladder; Surgery

Commentary

Ciliated Foregut Cyst (CFC) of gallbladder is a rare congenital lesion due to aberrant embryological development of the primitive anterior intestine. This anomaly can affect several organs: bronchial tree, esophagus, mediastinum, liver, and pancreas. Localization at the level of the gallbladder is recognized for a long time as exceptional. In recent years, several publications have studied this subject.

Sixteen cases of CFC of gallbladder have been reported in the literature. The first case was reported by Kakisubata et al. [1] in 1995 and the last case was reported by Triki et al. [2] in 2018. In a review of 16 previously reported cases the epidemiological characteristics were as follows: Women were more affected compared to men (10 women to 5 men) and the ratio of female to male was 2 [2]. This female prediction remains poorly explained. This pathology affects both young and old patients. The mean age of patients was 45 y with extreme ages of 20-75 y old [2]. Only one case has been reported in children [3].

The clinical symptoms are not specific. The most frequent clinical symptom is abdominal pain heading at the right upper quadrant. More rarely patients were asymptomatic and the discovery of the gallbladder cyst was incidental. In these cases, the size of the cyst was less than 2.5 cm. It is possible that the size of the cyst influences the occurrence of pain. Generally, laboratory examinations did not show an abnormal liver function tests and biliary enzymes.

Radiologic studies are important to detect cystic structures and examine adjacent organs; the first radiological examination required is an abdominal ultrasound (US). It describes the ciliated cyst as anechoic cystic lesion in most cases, rarely as highly echoic areas were observed [4-6]. When there are hyper echoic areas, ciliated cyst might be confused with malignant tumours. Computerized tomography (CT) and Magnetic Resonance Imaging (MRI) are also effective diagnostic methods. CFCs are frequently detected as hyper intense but are sometimes observed to be iso- or hypo intense in the T1 sequence [7]. The content signal depends on the viscosity of the cyst fluid, mucin density and the presence of calcium or cholesterol crystals.

The diagnosis confirmation remains histological.

Macroscopically, the size of cyst ranged from 0.7 to 3.5 cm. The average size was 2.5 cm.

The most frequent location is the neck of gallbladder [2], rarely the cyst was located in the fundus. In two thirds of cases the contents of the cyst consisted of mucoid fluid. The cysts described were exclusively unilocular.

Microscopically, cystic lining cells usually consisted of pseudo stratified columnar or cuboid epithelium, and frequently single layer ciliated epithelium. A few or many goblet cells may be observed in the lining epithelium. The cyst wall consisted of thin smooth muscular tissue or fibro elastic connective tissue. There is now communication between the cyst and the gallbladder lumen. Any Squamous metaplasia or dysplasia was reported in the cystic epithelium.

Due to the rarity of this pathology, the management is not perfectly established. Some authors [4,8] recommended either minimally invasive surgery or close observation. But most publications are in favour of surgery. Laparoscopic cholecystectomy seems the most wise attitude since CFC of liver and gallbladder have similar origin and Hepatic ciliated foregut cysts have been known on occasion to undergo malignant transformation (malpigien metaplasia and epidermoid carcinoma) [9]. Otherwise, the distinction between benign and malignant lesion is difficult on imaging techniques. So, we find that mini-invasive resection is the most appropriate especially since the morbidity associated with this type of surgery remains low.

Conclusion

Ciliated foregut cysts of gallbladder are uncommon and may be asymptomatic. It is important to consider this rare entity in the differential diagnosis when radiological studies show a cystic structure in or adjacent to the gallbladder, to avoid misdiagnosis. CFC of gallbladder requires surgical removal because of the risk of occurrence of squamous metaplasia.

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