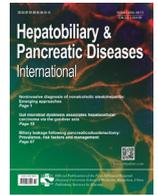




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Hepatobiliary & Pancreatic Diseases International

journal homepage: www.elsevier.com/locate/hbpd

Letter to the Editor

EUS-guided gallbladder polyp resection: A new method for treatment of gallbladder polyps

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To the Editor:

The gallbladder polyp detection rate has been increasing due to the growing use of abdominal imaging technology and the incidence of gallbladder polyps, occurring in 5%–10% of the global adult population [1]. Gallbladder polyps can be divided into true polyps and pseudo polyps, and the latter are more common. Pseudo polyps have no malignant potential. In contrast, true polyps can be benign or malignant, with the most common being adenomas and adenocarcinomas [2]. Prognosis worsens when the gallbladder polyp size is greater than 9 mm and/or the patient's age is over 52 years. Invasion of the surface of the liver or gallbladder wall thickening of more than 5 mm is considered the main factor promoting the risk of malignant transformation [3]. In addition, a recent study has confirmed the association between gallbladder polyps and colorectal adenomas or adenocarcinomas [4]. Currently, the main treatment methods of gallbladder polyps include conservative therapy and surgical resection. Conservative therapies include anti-inflammatory and cholestatic drugs; albeit not a cure, these treatments relieve symptoms. Surgical treatment involves conventional surgical cholecystectomy and laparoscopic cholecystectomy. Although surgical resection can be curative, there are many shortcomings, including trauma, slow recovery, high cost and complications such as bile leakage, pneumoperitoneum, and bleeding. Therefore, a new method for the treatment of gallbladder polyps is necessary.

Endoscopic ultrasonography (EUS) is a non-invasive method of disease diagnosis and treatment that has rapidly developed in the past 20 years, and this technique has been applied for many procedures including gastrointestinal endoscopic polypectomy, pancreatic cysts and biliary drainage, cholangioenterostomy, and intestinal anastomosis. The development of EUS technology provides a new and alternative treatment option for gallbladder polyps. Thus, we propose that EUS-guided gallbladder polyp resection may be feasible and can be used as a new method to treat gallbladder polyps, as based on the following evidence.

EUS has a wide indication. Contrast-enhanced ultrasound (CEUS) improves diagnostic accuracy compared to conventional ultrasound. CEUS provides more information about lesions, clearly showing lesion outlines, borders and shape, the shape of the gallbladder wall, and invasion of surrounding tissues. CEUS is safe and convenient approach for the diagnosis of gallbladder polyps [5]. Real-time color Doppler flow EUS is another useful diagnostic method for differential diagnosis of neoplastic polyps, with good specificity, accuracy, and high reliability. Compared with traditional ultrasound, EUS provides more accurate images, not only measuring the size of polyps but also revealing the gallbladder wall structure and internal echo. EUS is considered as the most sensitive diagnostic tool for gallbladder polyps [6]. In short, the mature technology of EUS is conducive to the differential diagnosis of benign and malignant of gallbladder polyps.

EUS-guided gastrointestinal polypectomy has become the most widely used method for treating gastrointestinal polyps. Similar histological structures between the stomach and the gallbladder provide a tissue basis for the removal of gallbladder polyps under the guidance of EUS.

EUS-guided gallbladder mucosal resection is less traumatic and has faster recovery with fewer complications than other methods. For gallbladder diseases such as gallbladder polyps and gallstones, the traditional treatment is surgical removal of the gallbladder. Surgical cholecystectomy results in severe trauma, long hospital stays, high costs, infection, cholelithiasis, pancreatitis and other complications. Under ultrasound guidance, the endoscope can reach the gallbladder cavity. There are two ways to achieve this: (i) through the duodenal bulb to the gallbladder cavity and (ii) through gastric puncture to reach the gallbladder cavity. EUS-guided removal of the gallbladder mucosa through the mouth and stomach into the gallbladder reduces surgical trauma and shortens hospital stay, thereby reducing the cost of hospitalization and postoperative complications [7].

Turner et al. [8] reported that gallbladder stone removal and lavage can be performed by duodenal bulb puncture into the gallbladder cavity in patient with unresectable cholangiocarcinoma and secondary cholangitis. In this method of gallbladder drainage, a stent was placed to relieve symptoms, with no adverse events reported. Teoh et al. [9] reported the use of a novel stent placed between the gallbladder and the duodenum in an elderly patient

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with acute cholangitis achieving gallbladder stone removal and gallbladder drainage by penetrating the duodenum into the gallbladder cavity. Lee et al. [10] also reported the use of transgastric puncture into the body of the gallbladder and transduodenal puncture into the gallbladder neck. Although a large number of clinical examples are still needed, EUS-guided gallbladder mucosal resection with its unique advantages may be a promising treatment for gallbladder polyps.

Contributors

JSZ proposed the study. CSA performed the research and wrote the first draft. All authors contributed to the design and interpretation of the study and to further drafts. JSZ is the guarantor.

Funding

None.

Ethical approval

Not needed.

Competing interest

No benefits in any form have been received or will be received from a commercial party related directly or indirectly to the subject of this article.

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Received 10 July 2018
Accepted 7 November 2018
Available online 22 November 2018