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Gastric heterotopia together with intestinal metaplasia in the gallbladder: Case report and review of literature

Safra kesesinde intestinal metaplazi ile birlikte gastrik heteropi: Olgu sunumu ve literatür incelemesi

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Heterotopic gastric mucosa in the gallbladder is extremely unusual. In this study, we aimed to report a case of gastric heterotopia together with intestinal metaplasia in the gallbladder of a 16-year-old male patient who experienced a sudden onset of epigastric pain with nausea. He was admitted to the hospital with a prediagnosis of mild degree obstructive jaundice. Cholecystectomy and hepaticoduodenostomy were carried out. In the microscopical examination of the gallbladder, an antral and pyloric type gastric mucosa together with intestinal metaplasia were clearly evident in the gallbladder submucosa, and the adjacent gallbladder mucosa showed typical features of chronic cholecystitis.

Key words: Heterotopic gastric mucosa, gallbladder, heterotopia

Safra kesesinde heteropik gastrik mukoza görülmesi oldukça nadirdir. Bu çalışmada, safra kesesinde intestinal metaplazi ile birlikte heteropik gastrik mukoza görülen, ani başlayan epigastrik ağrı ve bulantı yakınması olan 16 yaşındaki bir erkek hastayı sunmayı amaçladık. Hasta hafif derecede tıkanma sarılığı ön tanısı ile hastaneye yatırıldı ve kolesistektomi, hepatikoduodenostomi uygulandı. Safra kesesinin mikroskopik incelemesinde, antral ve pilorik tipte gastrik mukoza ile birlikte intestinal metaplazi saptandı, geri kalan safra kesesi mukozasında kronik kolesistit bulguları mevcuttu.

Anahtar kelimeler: Heteropik gastrik mukoza, safra kesesi, heteropi

INTRODUCTION

Although gastric (body type) mucosa has been described in almost every part of the gastrointestinal tract from the oral cavity to the rectum, heterotopic gastric mucosa in the gallbladder is extremely unusual (1, 2). Heterotopic gastric mucosa, as well as intestinal metaplasia in the gallbladder, may be one of the causes of gallbladder cancer (1).

In the biliary tree, gastric heterotopia typically consists of fundic-type mucosa containing both parietal and chief cells. It differs from metaplasia, which, in the gallbladder, is characterized by intestinal or pyloric-type epithelium found in association with cholelithiasis, congenital anomalies, or tumors (3).

We aimed to present an unusual case of gastric heterotopia together with intestinal metaplasia in the gallbladder and to review the literature.

CASE REPORT

A 16-year-old boy with a four-year history of abdominal pain, nausea and vomiting was hospitalized because of prolongation of his complaints. On physical examination he had a mild tenderness at right upper abdominal quadrant. Laboratory investigations disclosed mild increases in the serum alkaline phosphatase, direct and indirect bilirubin, serum glutamic oxaloacetic transaminase, glutamic pyruvic transaminase, lipase and gamma glutamyl transpeptidase levels. Upper abdominal ultrasonography and computerized tomography were performed. The thickness of the gallbladder wall was about 7 mm and an 8x5 mm hypoechoic and lobulated lesion was seen at the fundus. Intrahepatic ducts were distinct and proximal choledochus was wide (Figure 1).

In the peroperative examination, chronic cholecystitis findings, cystic channel and choledochus wall

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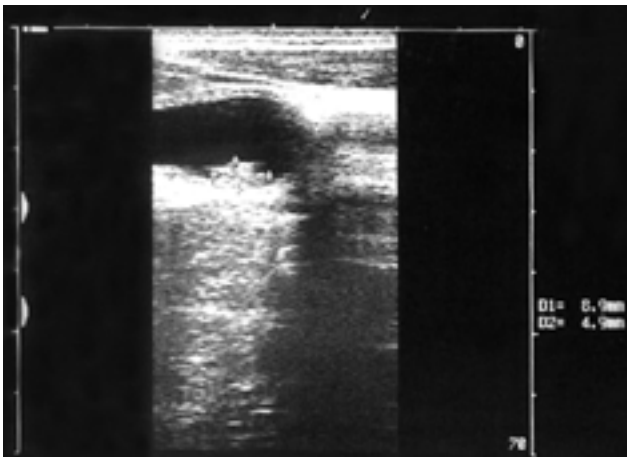

Figure 1. The ultrasonogaphic appearance of the hipoecoic lobulated contured lesion in the gall bladder

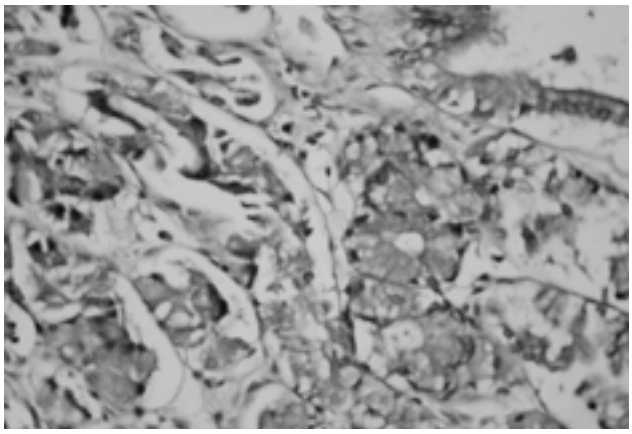

Figure 3. Alcian blue- periodic acid- Schieff (PAS x 40) stain, paneth cells are seen

thickening and inflammation (choledochosit) were identified. There was minimal dilatation in the hepatic channel. Based on these features, cholecystectomy and hepaticoduodenostomy were carried out.

topic mucosa, there were extensive pyloric glands and intestinal metaplasia. Typical features of chronic cholecystitis were obvious in the remaining mucosa (Figures 2-4).

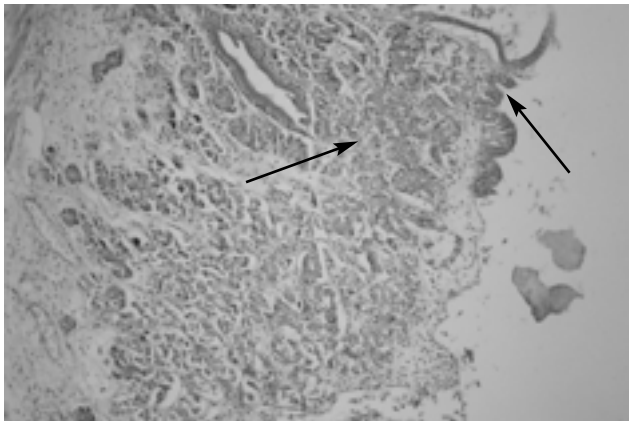

Figure 2. Alcian blue- periodic acid- Schieff (PAS x 4) stain, normal and metaplastic gall bladder epithelium. Paneth cells and intestinal metaplasia are seen

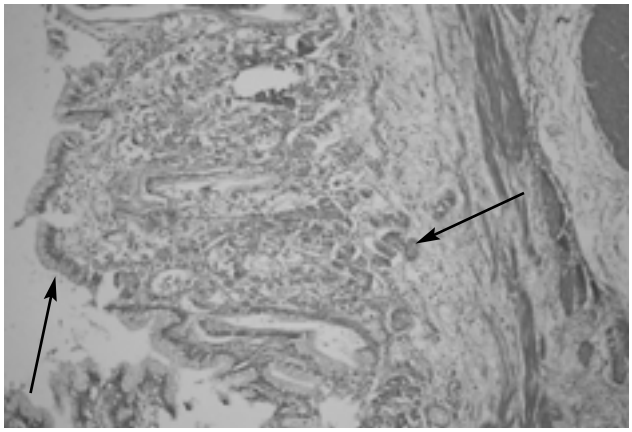

Figure 4. Paneth cells and intestinal metaplasia are seen (Haematoxylin- eosin x 10)

Histological examination revealed that the gallbladder specimen measured 8×2×0.9 cm and had a smooth and glistening serosa. On opening (exploration), a smooth green mucosa was found, measuring 0.4 cm in thickness. At the fundus of the gallbladder, a firm nodular thickening of the wall was noticed, measuring 2.4 cm at its largest diameter. The nodule was within the lamina propria and consisted of heterotopic gastric mucosa, with body type gastric glands. The overlying mucosa was hyperplastic. In close proximity to this hetero-

DISCUSSION

Heterotopia (also called ectopia or choristoma) is the occurrence of normal tissue in an abnormal location. Although heterotopia is uncommon in the gallbladder and biliary tree, cases of heterotopic gastric mucosa and hepatic, pancreatic, and adrenal heterotopia have been reported in the literature. Heterotopic tissue may occur secondary to displacement of cells during embryologic development of the foregut structures or secondary to irregular differentiation of multipotential cells (1).

Heterotopic gastric mucosa in the biliary tract often is discovered incidentally, but it may cause symptoms from gallbladder obstruction, inflammation, or perforation (4-6). Clinical symptoms are generally colic-type upper quadrant abdominal pain, abdominal discomfort, nausea, and vomiting. or sometimes symptoms with biliary obstruction and jaundice. Under 25 years of age, clinical symptoms are generally acute and relatively short and ectopic gastric mucosa tends to be the only pathological finding. In older patients, it may be with chronic cholecystitis and cholelithiasis, and seems to be incidental. In gastric heterotopia, hemorrhage and inflammation may occur because of peptic ulceration. The gallbladder may be normal, multiloculated, or consist of nodular or polypoid lesions protruding into the lumen, and localized diffuse thickening of the bladder wall may be present. It is often situated in the neck or, as in our case, at the fundus of the gallbladder (1, 2, 7). In this case there was upper quadrant abdominal pain and discomfort, nausea and vomiting, and obstructive jaundice.

We believe heterotopic stomach mucosa in the gallbladder causes inflammation in the cystic channel and choledochus by secreting acid. Obstructive jaundice was thought to be a result of the narrowing of the choledochus lumen due to choledochosit.

The characteristic feature of heterotopic gastric mucosa is the histological presence of fundic glands with both parietal and chief cells as well as pyloric glands, and most investigators have reported that heterotopic gastric mucosa involves all of these components (fundic type) (1, 8). Intestinal metaplasia has been reported in 12-52% of gallbladders and is frequently associated with pyloric metaplasia (9). In our case, there was an ectopic gastric mucosa with body type epithelium in the gallbladder. Furthermore, there was an association between heterotopic gastric mucosa and intestinal metaplasia.

In conclusion, surgeons must be aware of heterotopic gastric mucosa of the gallbladder, especially in young patients with cholecystitis and obstructive jaundice and with no gallbladder or biliary tree stones. As heterotopic tissue may promote carcinogenesis of the gallbladder, close attention should be paid to any occurrence of such lesions in this anatomical region.

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