



Carcinoid Syndrome as Presentation of Gallbladder Carcinoid Tumor; A Case Report

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Abstract

Introduction: Neuroendocrine tumors are classified as rare tumors that are mostly seen in lung or gastrointestinal tract and can cause many specific sign and symptoms such as flushing, diarrhea, heart failure, tachycardia, emesis, and bronchoconstriction. In this case, the tumor is located in gallbladder with classic presentations.

Case presentation: A 59 year-old female attended to our clinic with nausea and vomiting, heartburn, weight loss and flushing. The patient's ultrasound showed a hypo echo and heterogenic mass (24×36 mm) in the anterior wall of gallbladder which continued to the common hepatic duct and the CT scan reported a 40×21 mm mass like lesion in porto-hepatic area with pressure effect on distal of gallbladder and cystic duct suspicious for lymphadenopathy. The postoperative pathological findings were compatible with typical perineural carcinoid tumor.

Conclusion: Carcinoid or neuroendocrine (NETs) tumors are a type of slow growing tumors that are typically originated from several places of the body and usually begin in gastrointestinal (GI) tract or lung. Carcinoid tumor is a rare GI tract disease which consists about 1% of GI tract tumors. The NETs of gallbladder are very rare. This is necessary for surgeons to consider rare types in order to conduct proper management for this condition.

Introduction

Neuroendocrine tumors (NETs) are neoplasms that arise from cells of the endocrine (hormonal) and nervous systems. Secretory granules of the tumor are producing amines and polypeptide hormones and causing to present many specific sign and symptoms [1]. The symptoms are usually presenting in end stages. Common sign and

symptoms of carcinoid tumors are chest pain, wheezing, shortness of breath, diarrhea, redness or a feeling of warmth in face and neck (skin flushing), weight gain, particularly around the midsection and upper back, and pink or purple marks on the skin that look like stretch marks [2]. Carcinoid syndrome is an uncommon paraneoplastic syndrome which is presented secondary to carcinoid

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tumors. The syndrome includes flushing, diarrhea, heart failure, tachycardia, emesis, and bronchoconstriction [3]. Endoscopic ultrasonography (EUS) can be helpful for evaluating local invasion. Also, CT and MRI examinations are using for evaluating local and metastatic staging [5,4].

Case presentation

A 59 year-old female patient was admitted to the emergency service with a history of epigastric pain for about two years that was intensified during last two days. The patient was also suffering from nausea and vomiting, heartburn, esophageal reflux, weight loss, and flushing. She did not have any fever or chills. The pain was increased after eating food especially high fat food. The physical examination showed an epigastric and right upper quadrant tenderness without rebound tenderness and guarding. The laboratory test results were as following WBC= 10.71 with poly= %63.6 and lymph= %27.4, Cr= 1.3, BUN= 9, SGOT= 22, SGPT= 16, ALKP= 158, Plt= 286, Hb= 13.6 with MCV =81.4 and MCH= 28.1, CEA= 1.7, and CA 6.2 =9-19.

The patient had a history of hypertension, uncontrolled type 2 diabetes mellitus, and ischemic heart disease and was not taking any medications for the concurrent diseases. The family history of cancer was negative and the past surgical history was tubal ligation (TL) about 3 years ago.

The ultrasound showed a hypoecho and heterogenic mass (36×24 mm) in the anterior wall of gallbladder which was continued to the common hepatic duct. Also, the mass compressive effect on the hepatic artery and portal vein was reported.

The CT scan showed a 21×40 mm mass like lesion in portohepatic area with pressure effect on distal of gallbladder and cystic duct suspicious to lymphadenopathy. No other abnormality was seen in CT scan (Figure 1).

The patient was candidate for excision of

the tumor and cholecystectomy. First of, the mass was investigated using diagnostic laparoscopic surgery. Then, the tumor was exposed after opening the abdomen. It was located in bifurcation of common hepatic duct with adhesion to gallbladder. The extra hepatic bile duct anastomosis to gastrointestinal tract, excision of bile duct tumor and cholecystectomy as well as a Roux en-y hepatico-jejunostomy anastomosis were performed.

The postoperative pathological findings were compatible with typical carcinoid perineural tumor. Vascular or lymph vessel invasion was not noted. The immunohistochemical staining revealed strong positive expression of chromogranin A (CGA), synaptophysin (SYN), and poor positive expression of cytokeratin (CK) and cluster of differentiation (CD) markers.

The final diagnosis was typical carcinoid tumor (well differentiated neuroendocrine tumor) according to IHC study (figure 2).



Figure 1. The CT scan shows a 21×40 mm mass like lesion in portohepatic area with pressure effect on distal of gallbladder and cystic duct

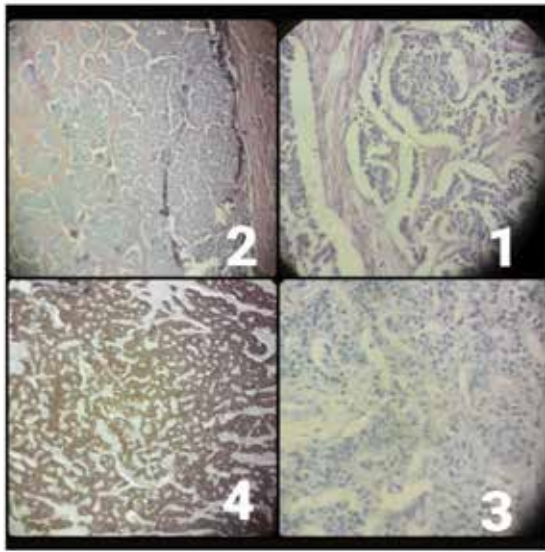


Figure 2. the pathologic study of the tumor with following dyes: 1= hematoxylin & eosin dye, 2= Chromogranin dye, 3= KI67-, and 4= synaptophysin dye.

Discussion

Gallbladder tumors are mostly benign. Adenoma, polyps, or adenomyomatosis are among common masses frequently seen in ultrasonography imaging. All asymptomatic or symptomatic lesions are recommended to be considered as an indication for surgery.

Carcinoid or neuroendocrine (NETs) tumors are a type of slow growing tumors which are typically arising in several organs and are usually begin in gastrointestinal (GI) tract or lung. Carcinoid tumor is a rare GI tract disease that consists about less than %2 of GI tract tumors. Appendix, jejunum and rectum are the most common sites of GI tract which are involved by neuroendocrine tumors; however, duodenum, colon, and stomach are less commonly involved [6]. Also, GB is the most infrequent site for originating NETs [7].

The grading of tumor depends on pathologic feature (eg. well or poor differentiating), tumor size, lymphovascular invasion, proliferation activity, Ki67-staining, Immunohistochemistry study, and metastasis [9 ,8]. Well-differentiated tumors are divided to G1 (low grade) and G2 (intermediate grade); while, all poorly

differentiated NETs (active mitotic figures and Ki67- staining >%20 positive) are considered as G10] 3].

There are not any neuroendocrine cells in GB. So, tumor origin is controversial. There are many hypothesis that how NETs are originating from GB. Many researches believe in epithelial metaplasia of GB as a result of inflammations. A close relationship between intestinal metaplasia and GB with cholelithiasis and the precursor effect of inflammation to metaplasia and neoplasia by genomic studies are proved and support this theory [14-11]. Another hypothesis is about transformation of neuroendocrine cells by a GB adenocarcinoma. There are many reports of mixing adenocarcinoma and neuroendocrine (Mixed adeno-neuroendocrine carcinoma) tumors in GB. However, the mixing tumors are rare in GB [15].

The mostly common types of gallbladder tumors are adenocarcinomas followed by squamous cell cancer, adenosquamous cancer, small cell cancer and sarcoma. But it is necessary for surgeons to consider rare types in order to conduct proper management for this condition.

Conclusion

Carcinoid or neuroendocrine (NETs) tumors are a type of slow growing tumors that are typically originated from several places of the body and usually begin in gastrointestinal (GI) tract or lung. Carcinoid tumor is a rare GI tract disease which consists about %1 of GI tract tumors. The NETs of gallbladder are very rare. This is necessary for surgeons to consider rare types in order to conduct proper management for this condition.

Authors' Contributions

MM, SNS, and MP presented the case and drafted the manuscript. MJB, SI helped in manuscript drafting and data presentation. MM and MJB helped in manuscript drafting

and designed the study. All authors have approved the final version of manuscript.

Conflict of Interest Disclosures

There are no conflicts of interest in terms of the present manuscript.

Ethical approval/Consideration

A written informed consent was signed by patient for reporting her case. All the personal information remained anonymous.

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