

MUCINOUS ADENOCARCINOMA OF GALL BLADDER: A RARE ENTITY IN GALL BLADDER ADENOCARCINOMA

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Abstract

Gall bladder carcinoma is the most common type of tumor of the biliary tract and adenocarcinoma is the major histopathological subtype. Mucinous variant is a rare subtype and mucinous carcinoma accompanied with signet ring is extremely rare. When mucinous component exceeds 90% of the tumor, it is labeled as pure mucinous carcinoma. Immunohistochemistry helps to distinguish primary mucinous adenocarcinoma of gall bladder from pseudo myxoma peritonei from appendiceal neoplasm. Mucinous carcinoma is CK 7 positive and CK20 negative. We report a case of mucinous adenocarcinoma arising from the fundus of the gall bladder.

Keywords: Mucinous carcinoma, Gall bladder, Adenocarcinoma, Metastatic deposits

Introduction

Extracellular mucin production in various carcinomas has been shown to reflect activation or modification of a variety of cellular pathways that not only impart a different morphology to the tumor but also present distinct biological properties of the tumor cells (1). Gall bladder carcinoma is the most common type of tumor of the biliary tract and adenocarcinoma is the major histopathological subtype. Mucinous variant is a rare subtype and mucinous carcinoma (MC) accompanied with signet ring is extremely rare (2). When mucinous component exceeds 90% of the tumor, it is labeled as pure mucinous carcinoma (3). We report a case of mucinous adenocarcinoma arising from the fundus of the gall bladder.

Case Report:

A 55-year-old woman presented with complaints of pain in right hypochondrium, vomiting, weight loss since two months. Also had fever and indigestion since 15 days. There is no history of diabetes or hypertension. On examination, her vital parameters were within normal

limit. Per abdominal examination, on palpation, a tender freely mobile mass was felt in the right hypochondrium on deep inspiration. Biochemical investigation showed mildly raised alkaline phosphatase (218 IU/L). Complete blood count and kidney function variables were within normal limits. CT scan abdomen showed cholelithiasis with circumferential mass of gall bladder in body and fundus. Radical cholecystectomy along with omental biopsy was performed. Grossly, Gall bladder measured 9x5x3cm. Outer surface is unremarkable. Cut section showed a glistening grayish- white mass of size 3x2x2 cm, was identified at the neck of gall bladder. Histopathological examination of the growth showed a tumor comprising of cystically dilated mucin filled glands as well as atypical tumor cells and atypical mitotic figures were floating in mucin. Stroma showed desmoplasia. Omental fat and peritoneal nodule shows metastatic deposits of adenocarcinoma. A diagnosis of mucinous adenocarcinoma of gall bladder with omental and peritoneal metastasis and TNM stage of T₄N₀M₁ was made.

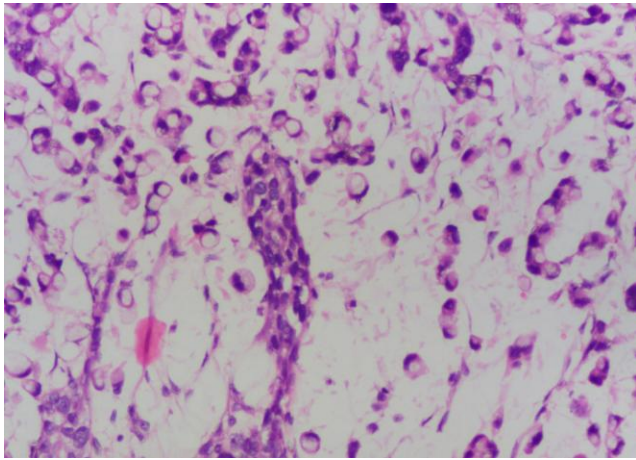


Figure 1: H & E stained section shows mucin secreting signet ring cells (40x) .

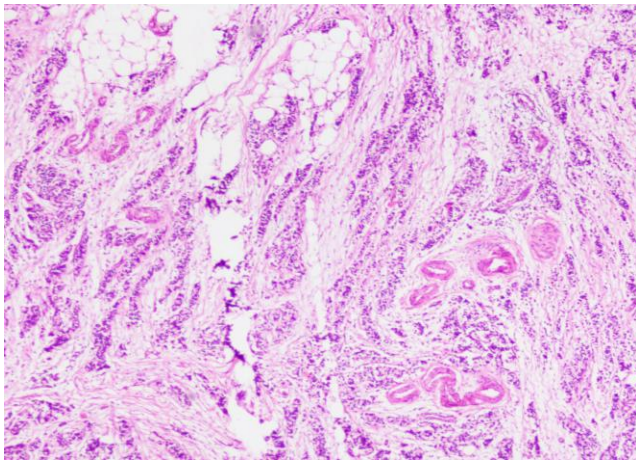


Figure 2: H & E stained section shows metastatic deposits of adenocarcinoma (4x).

Discussion:

Gall bladder carcinoma is the fifth most common gastrointestinal malignancy. It is a disease of elderly, more common in females than in males(3). Adenocarcinoma is the most common histologic type. It has various variants include : mucinous, papillary, squamous and adenosquamous (4). When mucinous component exceeds more than 90% of the tumor , it is labeled as pure mucinous carcinoma. Recently, the prevalence of signet ring cells among MC case has been reported as 33%(3). Thus the present case is rare as the prognosis of MC is poor if signet ring cells are dominant. Immunohistochemistry helps to distinguish primary

mucinous adenocarcinoma of gall bladder from pseudo myxoma peritonei from appendiceal neoplasm . Immunophenotypically MC is MUC2 positive while conventional gall bladder carcinomas are MUC2 negative. Mucinous carcinoma shows inverse CK7/CK20 profile compared to the intestinal carcinomas(5). Mucinous carcinoma is CK 7 positive and CK20 negative. Mucinous carcinoma is CDX2 Negative, while Pancreatic adenocarcinoma are CDX2 positive (6). In recent analysis of 15 cases gall bladder carcinoma, 67% patients presented with clinical picture of acute cholecystitis such as pain in right hyochondrium and vomiting. It was also noticed that by the time of diagnosis tumor was huge in size and had reached an advanced stage (7). It was also seen that MC showed a more aggressive behavior than a conventional adenocarcinoma and has a poorer prognosis (8).

Conclusion:

MC is a rare variant of gall bladder adenocarcinoma. It has been found that at the time of diagnosis, the tumor has reached an advanced stage and had a poorer prognosis than its conventional counterpart.

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