

Mucinous Adenocarcinoma of Gall Bladder with Metastasis to Lymph Nodes and Liver: A Rare Case Report

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Abstract

Gall bladder Cancer is the most malignant tumor of the bile duct worldwide. Mucinous adenocarcinoma of gall bladder is a very rare variant of gall bladder carcinoma. We report a case of 38 year old male who presented with complaints of pain in right hypochondrium, nausea and vomiting since 20 days. USG and CT scan revealed a mass in neck of gall bladder which on histopathological examination, showed Mucinous Adenocarcinoma metastasizing to liver and lymph nodes. To the best of our knowledge, this is the 26th case reported case of Mucinous carcinoma of gall bladder in the medical literature in the world.

Keywords: *Mucinous Adenocarcinoma; Gall Bladder; Lymph Nodes; Liver*

Introduction

Cancer is the most malignant tumor of the bile duct worldwide [1]. Adenocarcinoma is the most common histological type in 98% of all gallbladder tumors [2]. Mucinous adenocarcinoma, a rare subtype of adenocarcinoma comprises 2.5% of all gall bladder cancer [3]. Mucinous adenocarcinoma is defined as a carcinoma with > 50% stromal mucin deposition and has a poor prognosis [4]. We report a rare case of mucinous adenocarcinoma of the gallbladder in the neck of the gallbladder.

Case Report

A 38 year old male patient presented with pain in right hypochondrium, nausea, vomiting, anorexia and weight loss since 20 days. On abdominal examination, the mass in the right hypochondrium is clearly visible. USG and CT scan revealed a mass involving mainly neck of gall bladder and extending into body. Cholecystectomy was performed. Grossly, gall bladder measured 8 x 5 cms. The mass measured 3 x 2.5 x 2 cms. On cut section, a mass was seen involving neck and body of gall bladder. The cut surface of the mass was grayish white, solid and glistening. The resected margin of gall bladder was free of tumor. Liver tissue was also seen measuring 3.5 x 3 x 2 cms and was unremarkable. 4 lymph nodes at gall bladder neck were dissected measuring 0.5 to 2 cms in size. Histopathological examination revealed a malignant neoplasm consisting of tumor cells arranged in a glandular fashion in a mucinous background. The mucin was mainly extra-cellular with cystically dilated mucin filled glands. Few signet ring cells were also seen. The tumor cells were infiltrating the wall of gall bladder and invading the underlying liver tissue. Resected gall bladder margin was negative for presence of tumor. 2 gall bladder neck lymph nodes were positive for metastatic adenocarcinoma.

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An IHC panel was put up. The tumor cells were positive for CK 7 and negative for CK 20, confirming the diagnosis as primary malignancy of Gall Bladder. A diagnosis of Mucinous Adenocarcinoma Gall Bladder was made.

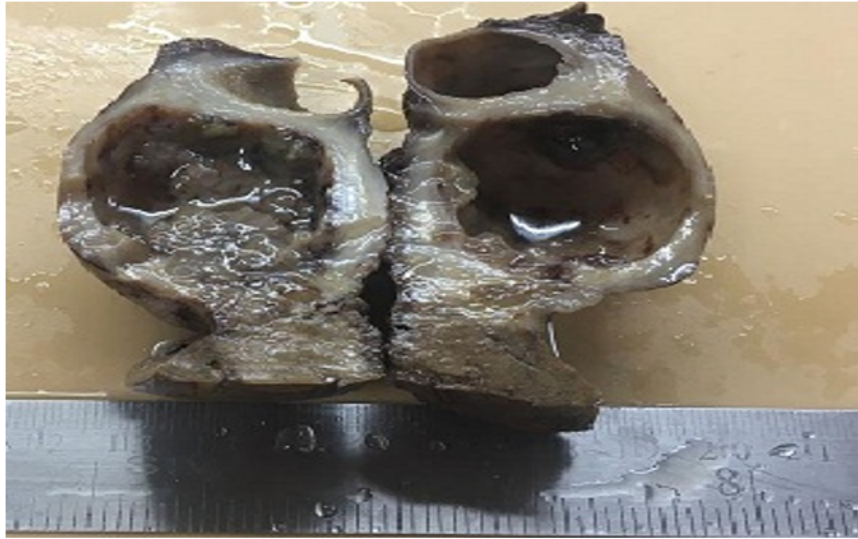


Figure 1: Gall bladder with mass involving neck and extending into the body of gall bladder. Cut surface is solid, grayish white, glistening.

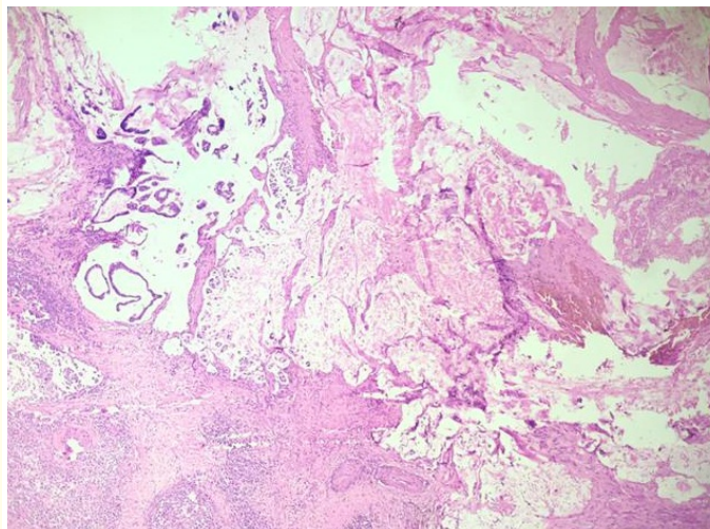


Figure 2A: H&E 100x - Mucinous adenocarcinoma - Gall Bladder- section showing malignant glandular structures in a mucinous background.

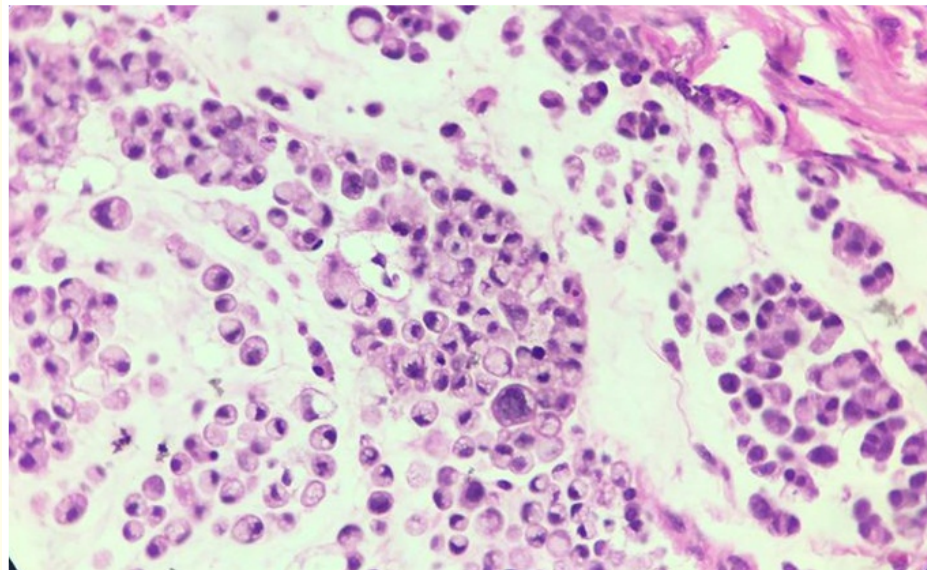


Figure 2B: H&E 400x - section showing presence of signet ring cells.

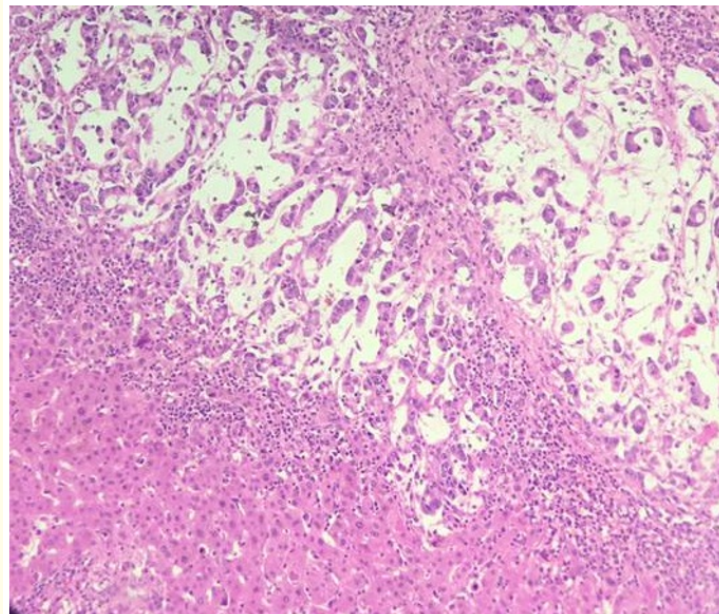


Figure 2C: H&E 100x - Section show liver tissue infiltrated by malignant glandular structures.

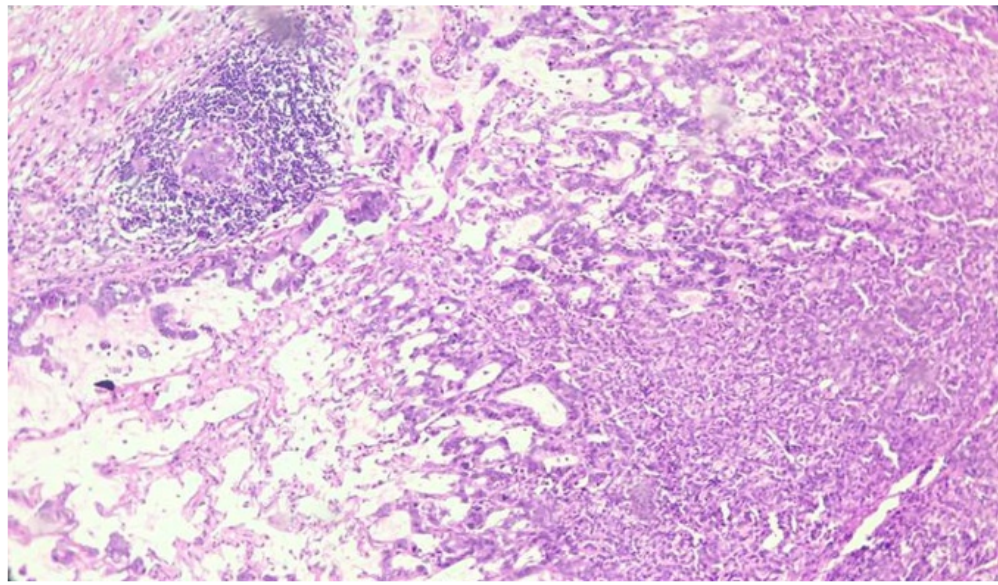


Figure 2D: H&E 100x - Lymph node showing presence of metastatic adenocarcinoma.

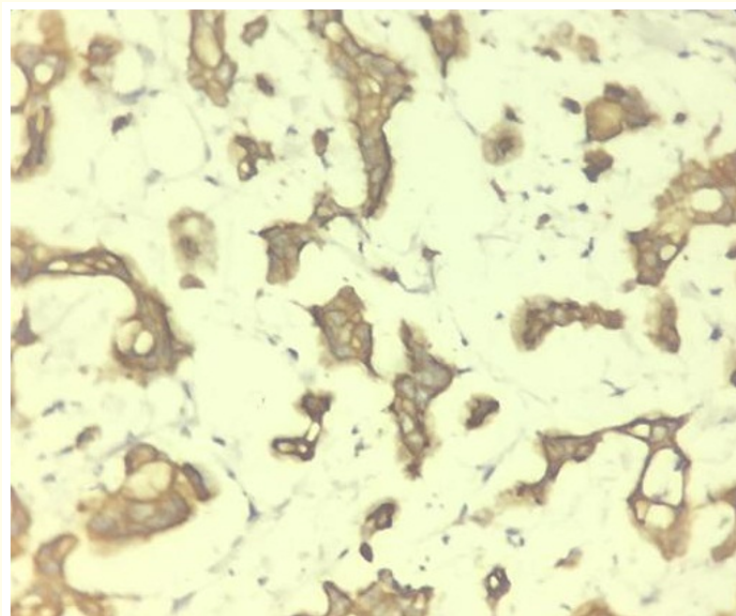


Figure 3A: CK 7 positivity in malignant glands.

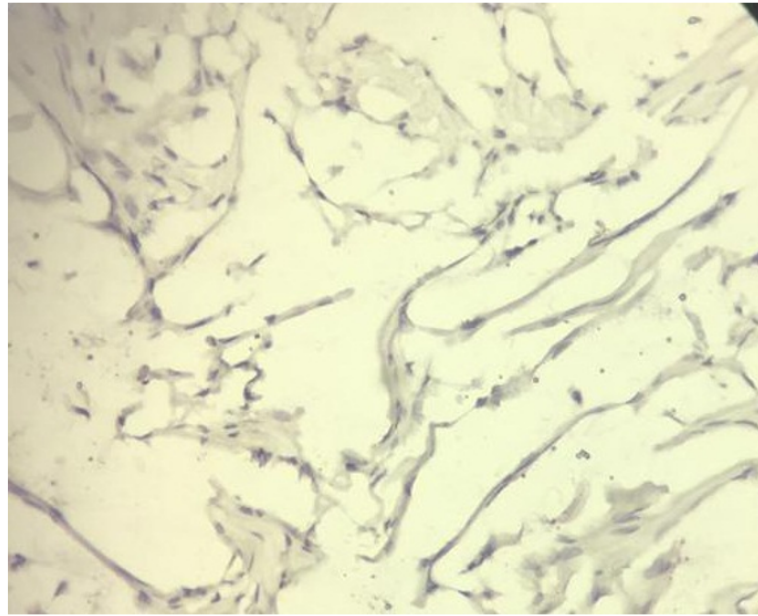


Figure 3B: CK 20 negativity in malignant glands.

Discussion

Gall Bladder carcinoma is an uncommon disease in the majority of the world despite being the most common malignancy of the biliary tract [4]. It is also the most aggressive carcinoma of the biliary tract and having the shortest median survival from the time of diagnosis. The only chance for a complete cure is by surgical resection; however at initial presentation only 10% of such patients are candidate for surgical intervention [5].

The risk factors for Gall Bladder carcinoma are gall stones, porcelain gall bladder, gall bladder polyp, congenital biliary cysts, pancreatobiliary anomalies, exposure to heavy metals, medications like methyldopa, OCP, isoniazid and estrogen, infections like salmonella, helicobacter and demographic factors (advance age, female gender, ethnicity, genetic predisposition) [1,6-12].

The most common histological type is Adenocarcinoma accounting for 98% of all gall bladder tumors.² The other variants include Clear cell carcinoma, Mucinous carcinoma, Signet ring cell carcinoma, Adenocarcinoma, Papillary carcinoma. Other rare types includes Carcinosarcoma, Undifferentiated carcinoma, Lymphoma and Metastasis [13,14].

Mucinous Carcinoma of Gall Bladder is a rare subtype of Adenocarcinoma and the literature on this variant is quiet limited. They constitute 2.5% of the Gall Bladder cancers [3]. Mucinous carcinoma is characterized by the presence of more than 50% extracellular mucin [15]. < 50% of stromal mucin containing tumor was regarded as Adenocarcinoma with focal mucin differentiation. Pure mucinous (Colloid) Adenocarcinoma comprised of > 90% of extracellular mucin, as seen in breast, is extremely rare in Gall Bladder with only 25 cases reported in medical literature [6,16-21].

Mucinous Carcinoma has two histologic variants. One with large pools of extracellular mucin with groups of tumor cells and other type with cystically dilated mucin glands. These may be present either alone or in combination [22].

Overall survival of Mucinous Carcinoma is significantly worse than that of conventional adenocarcinoma [23-26].

The gall bladder mucinous carcinomas can be distinguished from intestinal type adenocarcinomas by showing inverse CK7/CK20 profile (showing CK7 positivity and rare CK20 expression) [27].

Conclusion

Mucinous adenocarcinomas are extremely uncommon in the Gall Bladder. It is presented in more advance stage of disease and typically displays aggressive clinical behavior with poor prognosis.

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