

Mucinous Carcinoma of Gall Bladder an Incidental Finding of a Rare Case

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ABSTRACT- Introduction- Gall bladder carcinoma is the most frequent carcinoma of the biliary tract. Pure mucinous adenocarcinoma as seen in breast, skin, and pancreas are very uncommon in the gall bladder. Mucinous adenocarcinoma of gall bladder is rarer variant of gall bladder carcinoma.

Methods- We were reported a case of 55 years old male presenting at department of surgery of LLR and Associated Hospital with nonspecific symptoms of diffuse pain abdomen with nausea and vomiting, generalized weakness, itching all over body, jaundice associated with anorexia and weight loss for last 4 to 5 months, ultrasonography revealed gross thickening of wall of gall bladder neck with ill define mass lesion and diagnosis was confirmed by USG guided FNAC, Histopathological examination and Immunohistochemistry (IHC).

RESULTS- Patient present with pain abdomen, icterus and anorexia, on USG guided FNAC cytological and Histopathological findings are suggestive of mucinous adenocarcinoma.

Conclusion- Mucinous adenocarcinoma is the rarest variant of adenocarcinoma gallbladder. Incidental diagnosis of mucinous adenocarcinoma of gall bladder was found by USG guided FNAC followed by the histopathological examination.

Key-words- Mucinous Adenocarcinoma, Gall bladder, FNAC, Mucin

INTRODUCTION

Gall bladder carcinoma is the sixth most common malignant tumor of gastrointestinal tract and most frequent carcinoma of biliary tract. Approximately 3:1 ratio between female: male occur. Most patients are older than 50 years^[1]. About 99% of gall bladder cancer are carcinoma including more than 90% of them were adenocarcinoma. Carcinomas with copious mucin production are now thought to form distinct category among malignancies of gall bladder.^[2-3] Mucinous carcinoma constitute 2.5% of gall bladder carcinoma other sub type include papillary adenocarcinoma-squamous cell and adenosquamous carcinoma. Gall bladder carcinoma more common in females than males and its incidence increases with age^[4]. Cases in which stromal mucin deposition constituted more than 50% of tumor were classified as mucinous carcinoma according to current WHO Classification.^[5,10] Cases in which the mucin was confined to the lumina of the infiltrating glandular units, but not present in to the stroma, were not

qualified as Mucinous carcinoma.^[6]

Risk factor for gall bladder carcinoma is well known but a definite epidemiologic parallel between gall bladder carcinoma and cholelithiasis occur. Mucinous carcinoma is very uncommon and more aggressive neoplasm of gall bladder comprising 2.5%.^[7]

Case Report: A 55 years old male patient presented with diffuse pain abdomen, nausea with vomiting, generalized weakness, dyspepsia, itching all over body. History of significant weight loss and loss of appetite are also present. On examination his vital parameter is within normal limit.

The USG was shown hepatomegaly with diffuse grade 1 fatty liver infiltrate, grossly thickened and irregular wall of gall bladder, ill defined mass lesion in gall bladder neck. CECT showed grossly thickened wall of gall bladder with ill define mass lesion in gall bladder neck, lesion is infiltrating floor of gall bladder fossa. Another mass lesion is seen in gall bladder fundal region infiltrating segment VI of liver.

Patient was referred to pathology department for USG guided FNAC and guided FNAC was done with all aseptic precaution.

Cholecystectomy specimen also followed by histopathological examination. This is measuring 9.0X5.5X4 cm. On cut section inner surface showed speculated mucosa. Wall thickness varies from 0.6-0.8cm

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and one thickened area measuring 6.5X4.5cm are also seen. Histopathological examination of specimen shows singly lying as well as small sheet and clusters of round to oval atypical cells floating in the pool of mucin. At places signet-ring like cells are also seen lying singly or in clusters within the mucin. No lymphovascular invasion was seen.



Fig. 1: Gross appearance of cholecystectomy specimen

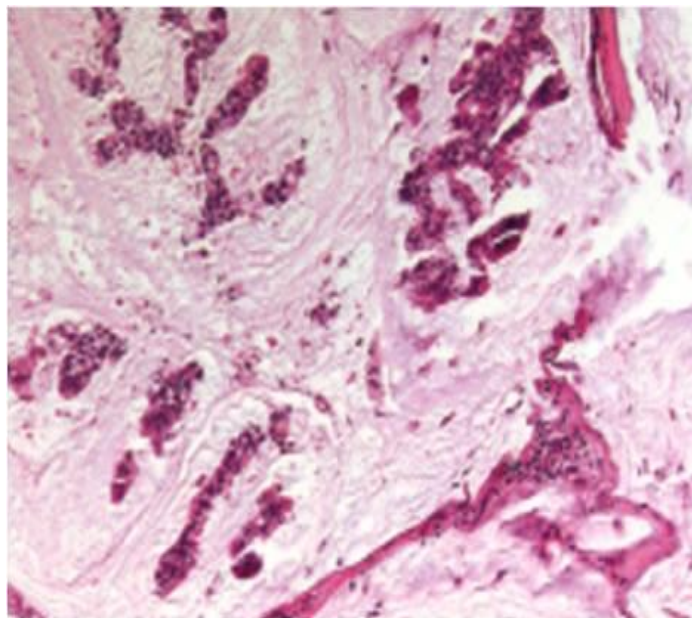


Fig. 2: Microscopic feature of mucinous carcinoma of gall bladder (H & E 100 X)

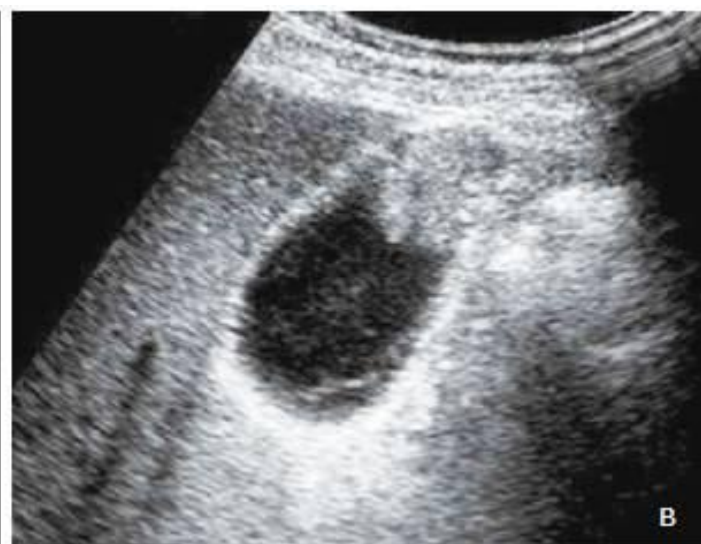


Fig. 3: USG- Gall bladder with thickened wall and dilated lumen

Table 1: Biochemical parameters indicated in Liver function test

Biochemical parameters	Obtained Value	Normal Reference Range
Bilirubin Total	16.9 mg/dl	0.3 to 1.0 mg/dl
Direct	10.9 mg/dl	0.0 to 0.2 mg/dl
Indirect	6.0 mg/dl	0.4 to 0.8 mg/dl
Total Protein	9.4 gm/dl	5.5 to 8gm/dl
SGOT	152 U/L	5 to 40 U/L
SGPT	150 U/L	5 to 42 U/L
ALP	872U/L	25-120 U/L

Microscopic/ Cytological findings

Good cellularity smear reveals dispersed as well as cohesive clusters and sheets of round to oval atypical cells forming acini like structure at places, showing overlapping and overcrowding, mild to moderate degree of pleomorphism, having high nucleocytoplasmic ratio, hyperchromatic nuclei, coarse to clumped chromatin, irregular nuclear membrane. Few of them showing prominent nucleoli, moderate amount of eosinophilic cytoplasm and intracytoplasmic inclusion. Along with few binucleate and multinucleate giant cells, cyst macrophage and cellular derbies, clusters of normal looking hepatocytes are also seen. The background is blood mixed mucinous and findings are suggestive of mucinous adenocarcinoma gall bladder.

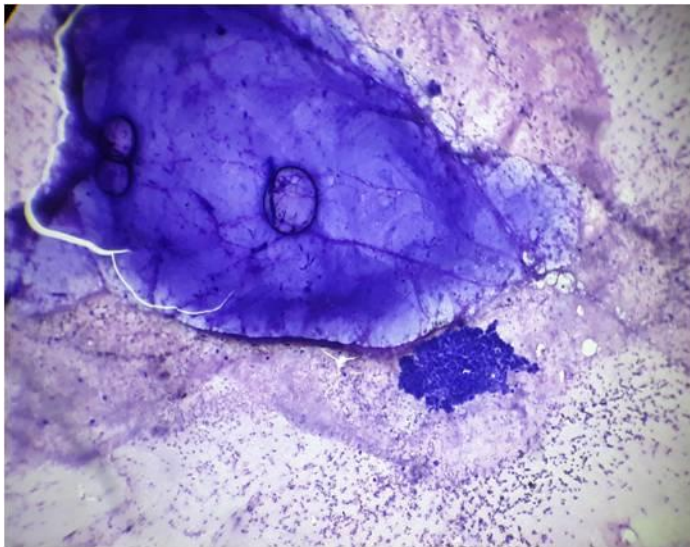


Fig. 4: Clusters of malignant cells along with mucin in the background (H & E 100X)

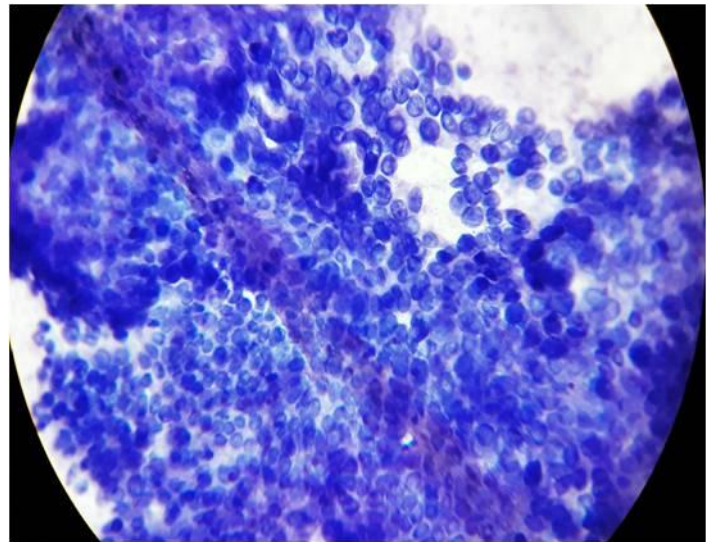


Fig. 7: Multiple clusters of malignant cells forming acini in mucin rich background (H & E 400X)

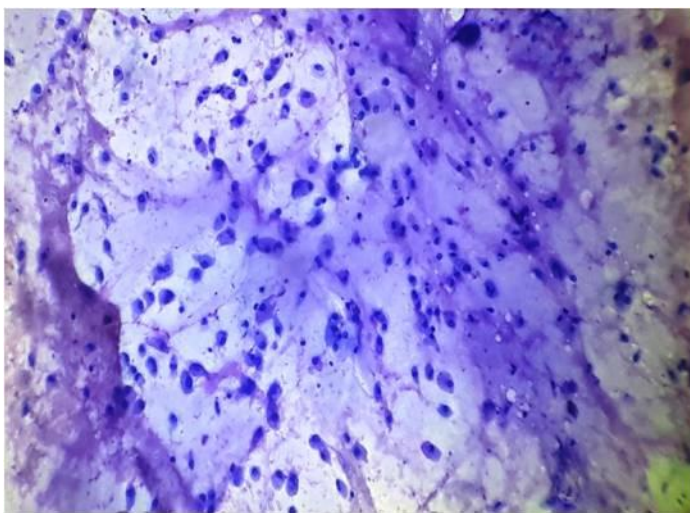


Fig. 5: Clusters of malignant cells along with mucin in the background (H & E 400X)

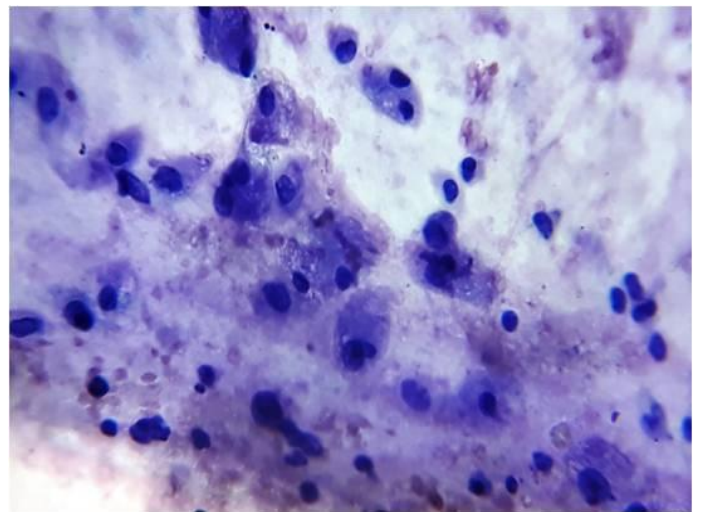


Fig. 8: Multiple binucleate and multinucleate giant cells in mucin rich background (H & E 400X)

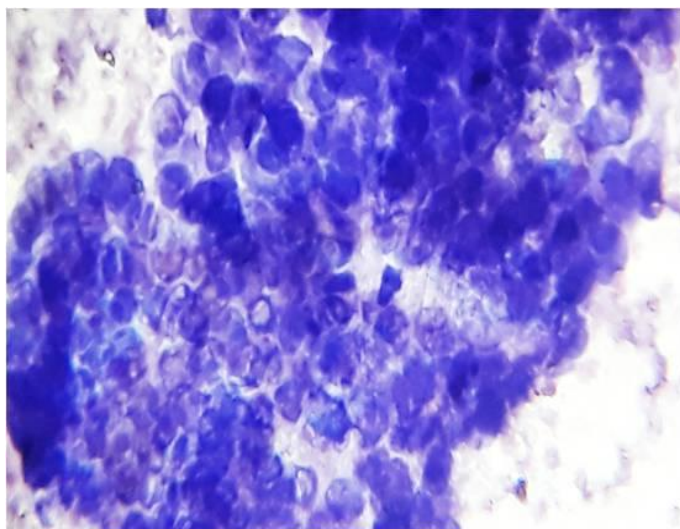


Fig. 6: Multiple clusters of malignant cells showing intracytoplasmic inclusion in mucinous background (H & E 400X)

DISCUSSION

Gall bladder cancer is the 6th most common gastrointestinal tract (GIT) malignancy [1]. It is less common in male as male to female ratio 1:3 [4]. While mucinous carcinoma constitute only 2.5%, this is rather uncommon in the gall bladder and is noted in the literature mostly as individual case reports or small series of a handful of cases. Because of definitional variations, the reported incidence rate varied from 5% to 10%. [2-3] Most patients are older than 50 years, which almost similar as in our case. [6] The presence of gall stone is one of the major risk factors for gall bladder adenocarcinoma but 10-25% of patients with gall bladder carcinoma they do not have associated cholelithiasis as in our case. [8] Many histological types of gall bladder tumor identified, the mucinous adenocarcinoma account for 2.5% of all carcinoma in gall bladder meeting the criteria of more than 50% of extra cellular mucin (WHO). [9] Most are mixed with other non mucinous adenocarcinoma type. In the majority of cases mucinous adenocarcinoma is frequently well differentiated and admixed with conventional adenocarcinoma, while poorly differentiated

mucinous adenocarcinoma with metastatic also found. Focal mucinous differentiation and well differentiated adenocarcinoma with intraglandular mucin also occur. Focal mucinous differentiation adenocarcinomas constitute less than 50% stromal mucin.^[1-9] We were differentiated to the mucinous carcinoma from conventional gall bladder adenocarcinoma by MUC2 positivity and from intestinal carcinoma by an often inverse CK7/ 20 profiles^[9] (CK7 positive and CK20 negative)^[1]. It is CDX2 negative so can be differentiated pancreatic mucinous carcinoma.^[11] It is MUC-6 negative so can differentiate from mammary colloid carcinoma.^[12] Mucinous carcinoma of gall bladder is an unexpected cytological finding done for gall bladder mass in spite of the modern diagnostic procedure, early diagnosis of gall bladder carcinoma is rare, therefore a routine UGS guided FNAC examination of all gallbladder mass is must follow by histopathological examination.^[13-14] USG guided FNAC play an important role in finding out the gall bladder carcinoma. Mucinous carcinoma is typically large and advanced tumor at the time of diagnosis and appears to be even more aggressive than another type of gall bladder adenocarcinoma.

CONCLUSIONS

Mucinous carcinoma of gall bladder defined as rare case of gall bladder carcinoma in which stromal mucin deposition constitute more than 50% of lesion, exhibit significant clinicopathologic differences from conventional gall bladder adenocarcinoma. It is less common in men as compared to women and present with cholecystitis picture. They also present as gall bladder mass which can be evaluated by radiographic examination. It should be kept in mind that Gall bladder mass diagnosis as a mucinous carcinoma can be made on USG guided FNAC and further confirmation can be done by histopathological examination. As in our case it is an incidental diagnosis of mucinous carcinoma.

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