

## Case Report

# Mucinous adenocarcinoma of gall bladder: a case report

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### ABSTRACT

Gall bladder carcinoma is the fifth most common malignancy of gastrointestinal tract. Mucinous carcinoma of gall bladder is very rare variant of gall bladder carcinoma. Only 20 cases of mucinous carcinoma reported till now. We report one such case of 55yr old female patient presented to our hospital with complaining of pain in right hypochondriac region and vomiting since, one month. Radiological examination revealed neoplastic thickening of gall bladder neck with cholelithiasis. Cholecystectomy was performed and specimen showed glistening grey white infiltrative firm solid mass at the neck of gall bladder. On microscopic examination showed mucinous adenocarcinoma. Tumour comprised of cystically dilated mucin filled glands. Tumour was seen infiltrating into muscle layer.

**Keywords:** Cholelithiasis, Gall bladder, Mucinous adenocarcinoma

### INTRODUCTION

Mucinous carcinoma of the gall bladder is rare variant of gall bladder carcinoma constitutes 2.5% of gall bladder carcinoma. Mucinous carcinoma of gall bladder is characterized by extracellular mucin comprising > 50% of the tumour volume.<sup>1</sup> When mucinous component exceeds 90% the tumour labeled as pure mucinous carcinoma.<sup>2-4</sup> Most carcinomas arise in the fundus (60%), body (30%) and neck (10%). We report a case of mucinous adenocarcinoma of gall bladder arising in the neck of gall bladder.

### CASE REPORT

A 55-year-old woman presented with complaints of pain in right hypochondriac region, vomiting, weight loss since, one month, fever and indigestion since, 15 days. She is a known case of diabetes and hypertension since, 25 years. 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). CBC and KFT were within normal limits. USG revealed neoplastic circumferential thickening at the neck of gall bladder along with cholelithiasis. Other abdominal organs appear normal. CT Abdomen and Pelvis revealed neoplastic lesion involving neck of gall bladder and abdominal lymphadenopathy. Cholecystectomy along with omental biopsy was performed. Grossly gall bladder measured 9x5x3cm. On cut section showed glistening grey white mass of size 3x2x2 cm identified at the neck of gall bladder. Histopathological examination showed a tumour comprised of cystically dilated mucin filled glands as well as atypical tumour cells floating in mucin. Stroma showed desmoplasia. A diagnosis of well differentiated mucinous adenocarcinoma of gall bladder was made. Omental biopsy showed tumour deposit.

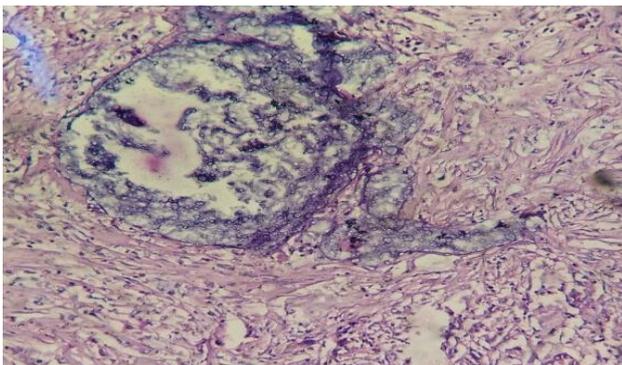
### DISCUSSION

Gall bladder carcinoma is the fifth most common gastrointestinal malignancy. It is a disease of elderly, more common in females than in males [3:1]. There are

various types of gall bladder carcinoma such as adenocarcinoma, squamous cell carcinoma, Aden squamous carcinoma. Majority of gall bladder carcinomas are adenocarcinomas of pancreaticobiliary type, while another subtype such as papillary carcinoma, clear cell carcinoma, mucinous carcinoma comprises remaining tumours. In mucinous carcinoma > 50% of tumour comprised of extracellular mucin with atypical cells or signet ring cells floating in them. <50% of stromal mucin containing tumours regarded as adenocarcinoma with focal mucin differentiation. Pure mucinous [ colloid] adenocarcinoma comprised of >90% of extracellular mucin, as seen in breast, it is extremely rare in gall bladder.<sup>2-4</sup> Mucinous carcinoma has two histologic variants. One with large pools of extracellular mucin with groups of tumour cells and other type with cystically dilated mucin filled glands. These may be present either alone or in combination.<sup>1</sup>



**Figure 1: Gross specimen of gall bladder showing glistening white mass at the neck of gall bladder obliterating the lumen.**



**Figure 2: Microscopic photograph of tumour showing cystically dilated mucin filled glands as well as atypical tumour cells floating in mucin.**

Immunophenotypically mucinous carcinomas are MUC2 Positive while conventional gall bladder carcinomas are MUC2 Negative. Mucinous carcinoma shows inverse CK7/CK20 profile compared to the intestinal carcinomas. Mucinous carcinoma is CK 7 Positive and CK20 Negative. Mucinous carcinoma is CDX2 Negative, while Pancreatic carcinoma are CDX2 Positive.

Immunohistochemistry helps to distinguish primary mucinous adenocarcinoma of gall bladder from pseudo myxoma peritonei from appendiceal neoplasm.<sup>4,6</sup>

The risk factors for all gall bladder carcinoma are gall stones, calcified porcelain gall bladder, choledochal cyst, polypoid lesion of the gall bladder, sclerosing cholangitis, anomalous pancreaticobiliary junction and exposure to carcinogens.<sup>4,6</sup>

In recent analysis of 15 cases gall bladder carcinoma, 67% patients presented with clinical picture of acute cholecystitis such pain in right hypochondriac region and vomiting.<sup>4</sup> They observed that these tumours are generally large and advanced at the time of diagnosis, so they have more aggressive behavior than conventional adenocarcinoma of gall bladder. Overall survival of mucinous carcinoma is significantly worse than that of conventional adenocarcinoma.<sup>7-10</sup>

## CONCLUSION

Mucinous carcinoma is rare variant of gall bladder carcinoma. It presented with clinical presentation of acute cholecystitis. As it is presented in more advance stage of disease, it has more aggressive behavior and worse prognosis than that of conventional adenocarcinoma of gall bladder.

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## REFERENCES

1. Albores-Saavedra J, Menck HR, Scoazec JC, Soehendra N, Wittekind C, Sriram PV, et al. Carcinoma of the gallbladder and extrahepatic bile ducts. In: Hamilton SR, Aaltonen LA, editors. WHO Classification of Tumors. Pathology and Genetics of Tumors of the Digestive system. Lyon: IARC Press; 2000. p. 206-12.
2. Adsay VN, Klimstra DS. Benign and Malignant Tumors of the Gallbladder and Extrahepatic Biliary Tract. In: Odze RD, Goldblum JR, editors. Surgical pathology of the GI tract, liver, biliary tract, and pancreas. 2nd ed. Philadelphia: Saunders Elsevier. 2009; pp.857-70.
3. Adsay VN. Gallbladder, Extrahepatic Biliary Tree, and Ampulla. In: Mills SE, editor. Sternberg's Diagnostic Surgical Pathology. 5th ed. Lippincott Williams & Wilkins. 2010; pp.1620-4.
4. Gupte AP, Chaturvedi R, Patil YL, Joshi SA. Pure mucinous (colloid) adenocarcinoma of the gallbladder-a rare phenotype. *Oncology, Gastroenterology and Hepatology Reports*. 2013;2(1):27.
5. Dursun N, Escalona OT, Roa JC, Basturk O, Bagci P, Cakir A, Cheng J, Sarmiento J, Losada H, Kong SY, Ducato L. Mucinous carcinomas of the

- gallbladder: clinicopathologic analysis of 15 cases identified in 606 carcinomas. *Archives of pathology & laboratory medicine.* 2012;136(11):1347-58.
6. Brunicaardi FC, Anderson DK, editors. *Schwartz's Principles of Surgery.* 8th ed. McGraw-Hill's. 2007.
  7. Blechacz B, Gores GJ. Tumors of the bile ducts, gallbladder, and ampulla. *Gastrointestinal and Liver Disease.* 2010;8:1171-83.
  8. Barcia JJ, Rodríguez A, Siri L, Masllorens A, Szwebel P, Acosta G. Gallbladder carcinoma in the "hospital de clinicas" of Uruguay: 1998–2002. A clinicopathologic study of five cases in 802 cholecystectomies. *Annals of diagnostic pathology.* 2004;8(1):1-5.
  9. Joo YE, Kim HS, Choi SK, Rew JS, Kim HJ, Kang HK, et al. Case of mucinous adenocarcinoma with porcelain gallbladder. *J Gastroenterol Hepatol.* 2003 Aug 1;18(8):995-8.
  10. Yamamoto A, Ozeki Y, Ito Y, Horita R, Saji S, Sugiyama H, Matsunaga K. A case of well differentiated mucinous carcinoma of the gallbladder. *Nihon Shokakibyō Gakkai zasshi= Jap J Gastro-enterol.* 2010;107(11):1821-7.

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