

# Adenocarcinoma of Gall Bladder: A Papillary Variant



## Pathology

KEYWORDS : Papillary adenocarcinoma, Gall bladder carcinoma, Cholelithiasis

**Dr. Deesha N. Bhemat**

2nd year resident, Department Of Pathology, MGM Medical College, Kamothe, Navi Mumbai

**Dr. D.B.Borkar**

Professor, Department Of Pathology, MGM Medical College, Kamothe, Navi Mumbai

**Dr. Reeta Dhar**

HOD & professor, Department Of Pathology, MGM Medical College, Kamothe, Navi Mumbai

**Dr. Shilpi Sahu**

Associate professor, Department Of Pathology, MGM Medical College, Kamothe, Navi Mumbai

### ABSTRACT

Adenocarcinomas account for 90% of gallbladder carcinomas out of only 25% is papillary adenocarcinoma. Gallstones cause chronic irritation and inflammation of the gallbladder, which leads to mucosal dysplasia and subsequent carcinoma. We report a case of 40 year old male who came to the surgery OPD with chief complaints of pain in abdomen and USG was suggestive of cholelithiasis due to which cholecystectomy was being performed. Grossly, the resected gallbladder was 7x3 cm in size and Microscopically tissue comprising of varying sizes of papillae lined by tumor cells showing stratification, marked nuclear pleomorphism, increased N:C ratio with prominent nucleoli was seen in the sections studied. Papillary gallbladder adenocarcinoma is a distinct clinical entity that represents about 5% of all malignant gallbladder tumors. It is not so common but has the best prognosis of the histological types.

### Introduction

Adenocarcinomas account for 90% of gallbladder carcinomas. This means that the cancer started in gland cells in the gallbladder lining. Only about 25% of gallbladder carcinoma is papillary adenocarcinoma [1]. It produces a papillary growth which tend to grow within the lumen and to form a bulky, rather slow growing tumor[2].

Cholelithiasis is a well-established risk factor for the development of gallbladder carcinoma, and gallstones are present in 74%–92% of affected patients. Gallstones cause chronic irritation and inflammation of the gallbladder, which leads to mucosal dysplasia and subsequent carcinoma. [3]

Early-stage carcinoma is typically diagnosed incidentally because of inflammatory symptoms, related to coexistent cholelithiasis or cholecystitis. One percent of patients undergoing cholecystectomy for cholelithiasis have an incidental gallbladder carcinoma[4].

### Case Report

We report a case of 40 year old male who came to the surgery OPD with chief complaints of pain in abdomen and USG was suggestive of cholelithiasis due to which cholecystectomy was being performed.

**Grossly :-** The resected gallbladder was 7x3 cm in size. External surface showed congestion and cut section showed cauliflower like intraluminal mass with multiple small gallstones.



Figure 1: Gross examination showing resected Gall bladder with intraluminal mass.

**Microscopically :-** Sections show breach in the lining of mucosal epithelium with intestinal metaplasia. Tissue comprising of varying sized of papillae with fibrovascular core, lined by tumor cells showing stratification, marked nuclear pleomorphism, increased N:C ratio with prominent nucleoli. Underlying lamina propria shows chronic lymphoplasmacytic inflammatory infiltrate.

Serosa shows congested blood vessels.

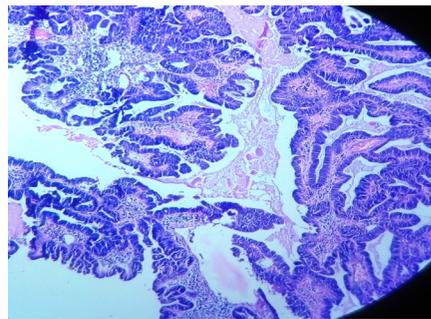


Figure 2 : H&E stained section shows varying sizes of papillae lined by malignant epithelial cells (10x view)

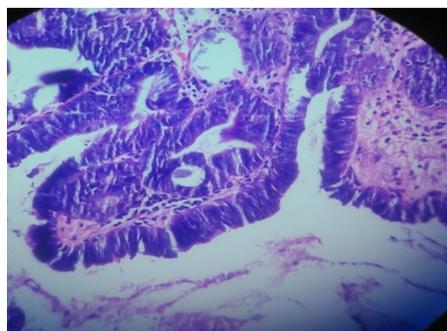


Figure 3 : H&E stained section showing papilla lined by malignant epithelial cells showing stratification (40x view)

## Discussion

Papillary gallbladder adenocarcinoma (PGA) is a distinct clinical entity that represents about 5% of all malignant gallbladder tumors<sup>[1]</sup>. PGA is composed predominantly of papillary structures lined by cuboidal or columnar epithelial cells often containing variable amounts of mucin<sup>[7]</sup>. Papillary adenocarcinomas appear to be more frequent in the gallbladder than in the extrahepatic biliary tree.

Patients typically present with symptoms similar to cholelithiasis, which may be secondary to the large papillary growth that fills the gallbladder lumen<sup>[2]</sup>. Risk of development of Gall bladder carcinoma is seen more in females as compared to males while our case it was a male patient which again is rare.

Our patient was found to have a cauliflower like intraluminal mass, which histologically showed papillary adenocarcinoma without tumor invasion into lamina propria. In general, PGA's presents at an earlier stage with up to 64% of patients having localized disease<sup>[5]</sup>. The 5-year survival rate for PGA can be as high as 41% compared to 8-10% for patients with other types of

gallbladder cancer<sup>[5]</sup>. Noninvasive criteria included the following: predominant (>80%) papillary architecture, lack of infiltration into the wall of the gallbladder, and tumor size greater than 1.0 cm.<sup>[6]</sup> Moreover, invasive papillary carcinomas of the gallbladder had a significantly better prognosis than invasive non-papillary carcinomas, which has a 10-year survival of only 30% when confined to the gallbladder wall<sup>[1]</sup>.

Eradication of gallstones remains the ideal target for the prevention of gallbladder cancer given their association with carcinogenesis. Patients at high risk (stones >2-3 cm, associated polyps, non-functioning gallbladder, porcelain gallbladder, pancreatobiliary reflux, segmental adenomyomatosis, and xanthogranulomatous cholecystitis) may significantly benefit from prophylactic cholecystectomy.

## Conclusion

Papillary adenocarcinoma consists of predominantly fibrovascular stalks lined by malignant epithelial cells, and it often produces mucin in the gallbladder. It tends to fill the lumen of the gallbladder before invading the gallbladder wall. Papillary adenocarcinoma is not so common but has the best prognosis of the histological types. Knowledge of the varied appearances of gallbladder carcinoma at histopathological examination is important in therapeutic management.

## References

1. Albores-Saavedra J, Tuck M, McLaren BK, Carrick KS, Hensen DE. Papillary carcinomas of the gallbladder: analysis of noninvasive and invasive types. *Arch Pathol Lab Med.* 2005; 129: 905-909.
2. Kim MJ, Kim KW, Kim HC, Kim SY, Park SH, Kim AY, et al. Unusual malignant tumors of the gallbladder. *AJR Am J Roentgenol.* 2006; 187:473-480.
3. Nagorney DM, McPherson GA. Carcinoma of the gallbladder and extrahepatic bile ducts. *Semin Oncol.* 1988;15:106-15.
4. Tantia O, Jain M, Khanna S, Sen B. Incidental carcinoma gallbladder during laparoscopic cholecystectomy for symptomatic gall stone disease. *Surg Endos.* 2009;23:2041-46.
5. Carriaga MT, Henson DE. Liver, gallbladder, extrahepatic bile ducts, and pancreas. *Cancer.* 1995; 75:171-190.
6. Brandon C Chapman, Teresa Jones, Martine C McManus, Raj Shah, Csaba Gajdos. Metastatic Papillary Gallbladder Carcinoma with a Unique Presentation and Clinical Course. *Journal of Pancreas* 2014 Sep 28; 15(5):515-519.

7. Adsay V, Jang KT, Roa JC, Dursun N, Ohike N, Bagci P, Basturk O. et al. Intracholecystic papillary-tubular neoplasms (ICPN) of the gallbladder: clinicopathologic and immunohistochemical analysis of 123 cases. *Am J Surg Pathol.* 2012;36(9):1279-1301.