

# Intracystic Papillary Neoplasm of Gall Bladder: A Case Report

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## ABSTRACT

Intracystic papillary neoplasm of gallbladder (ICPNG) is defined as macroscopic papillary growth in the gallbladder. We report a case of ICPNG with epigastric metastasis. A 70-year-old woman was referred to our hospital with epigastric mass, with prior history of laproscopic cholecystectomy 15 months before. Post op histopathology report revealed Intracystic papillary neoplasm (pre-malignant lesion). Microscopic findings state tumor cells arranged in complex papillary pattern with fibrovascular core arising from gall bladder mucosa. Few of the Rokitansky Aschoff sinuses (RAS) also involved by these tumor cells. Adjacent gall bladder mucosa shows pyloric metaplasia. On FNAC of epigastric mass it showed Metastatic carcinoma favoring Adenocarcinoma. In present case, ICPNG was seen with few of Rokitansky Aschoff sinuses. It is necessary to determine appropriate proper surgical approach likely extended cholecystectomy, or pancreaticoduodenectomy to get R0 resection.

**Keywords:** Intracystic papillary neoplasm of gallbladder, Rokitansky Aschoff sinuses, R0 resection.

## Introduction

Intracystic papillary neoplasm of gallbladder (ICPNG) is comparatively a new concept and is not well defined till date. WHO Classification of Tumours of the Digestive System, World Health Organization of Tumours, IARC, Lyon, described it as a pre-malignant lesion.<sup>1</sup> ICPNG is characterized by papillary growth in the gallbladder, generally detected macroscopically and is sometimes diagnosed by imaging findings. Herein, we report a case of ICPNG with epigastric metastasis.

## Case Report

A 70-year-old postmenopausal female was referred to our hospital, with epigastric mass, on 28<sup>th</sup> April 2019, with post cholecystectomy status. She underwent laparoscopic cholecystectomy on 21<sup>st</sup> July, 2017 at B.P. Koirala Institute of Health Science, for provisional

diagnosis of Gall Stone Disease, with history of Pain over right upper abdomen for 2 months, no history of fever, nausea, vomiting, icterus, non-aggravating or relieving factors. Pre-op Ultrasound of abdomen and pelvis showed chronic calculus cholecystitis (few, 8.8mm largest). Intraoperative findings state contracted gall bladder (GB) containing multiple stone, Calots normal, CBD Normal, and Liver Normal. The postoperative course was uneventful and the patient was discharged.

On presentation at GI OPD of our center, 21 months after cholecystectomy, she came with complaints of Epigastric mass, occasional pain, no history of fever, icterus, nausea, vomiting. Blood tests showed SGPT 14.5 U/L (normal range, 5 to 40 U/L), SGOT 18.6 U/L (normal range, 8.0 to 40 U/L), alkaline phosphatase 82 U/L (normal range, 25 to 140 U/L), total bilirubin 0.8 mg/dL (normal range, 0.1 to 1 mg/dL), direct bilirubin 0.2 mg/dL (normal range, 0.0 to 0.3 mg/dL),

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carcinoembryonic antigen 4ng/mL (normal range, < 5.0 ng/ml). Abdominal ultrasonography revealed heterogenous lesion showing solid and cystic components at the subcutaneous plane of epigastric region measuring 4.2 X 3.2 cm- likely metastasis. On the basis of these reports, lesion was diagnosed as suspicious of malignancy, and FNAC was performed. On microscopic findings, it revealed proliferation of atypical cells arranged in gland, clusters, papillaroid fragments as well as scattered singly; individual cells are pleomorphic with high N/C ratio, irregular nuclear membrane, coarse chromatin, inconspicuous to visible nucleoli and moderate to abundant cytoplasm. The overall cytomorphic features confirmed of Metastatic Carcinoma favoring Adenocarcinoma.

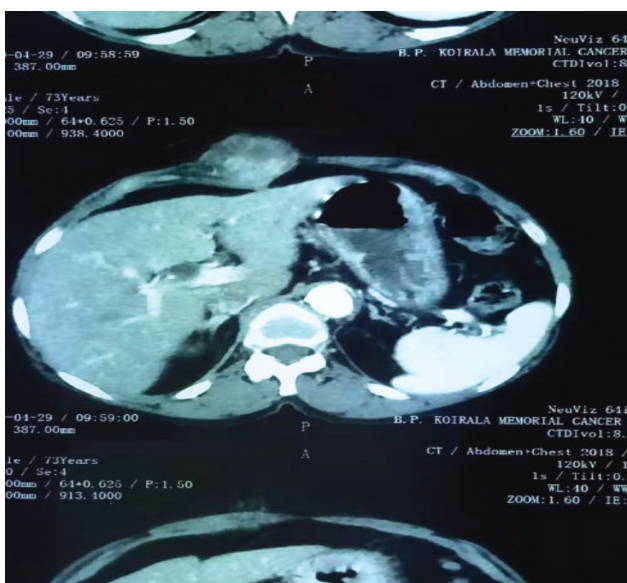


Figure 1: Post cholecystectomy CT findings showing recurrence heterogenous mass lesion with its discrete to diffuse enhancement involving incisional site in paramedian territory invading rectus abdominis muscle.

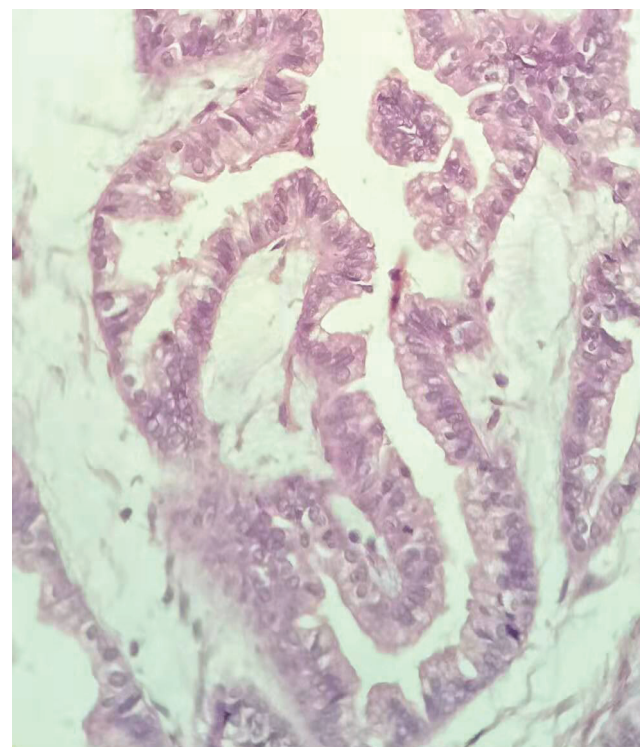
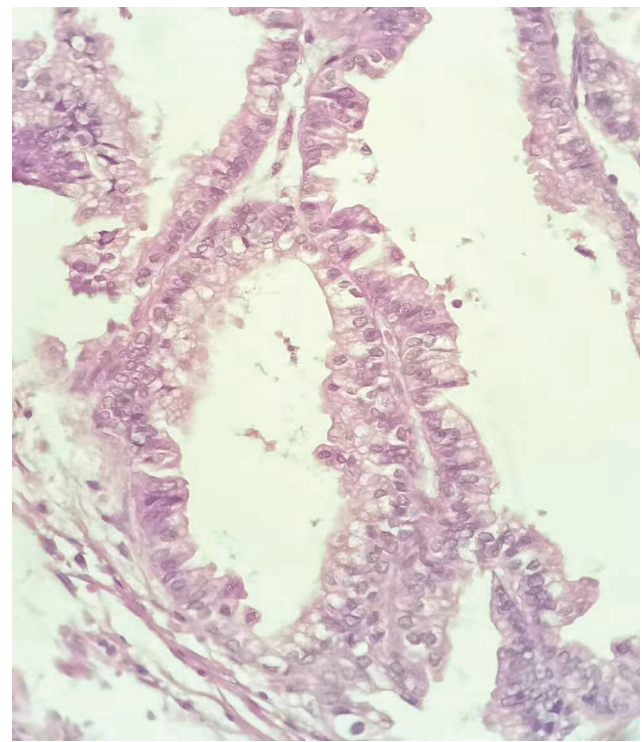


Figure 2: Histopathological findings: Tumor cells arranged in complex papillary pattern with fibrovascular core arising from gall bladder mucosa. Few of the Rokitsansky Aschoff sinuses (RAS) also involved by these tumor cells.

### Discussion

Intracystic papillary neoplasm is generally found in hepatic-biliary system, characterized by intraluminal growth, is associated with mucobilia due to excessive mucin secretion. 2,3 ICPN is described in the 2010 WHO

classification as the gallbladder lesion.<sup>1</sup> According to Adsay et al., ICPN has the following features: (1) intramucosal, (2) preinvasive neoplastic (dysplastic), (3) mass forming: exophytic (papillary or polypoid), (4) size  $\leq$  1.0 cm, (5) compact, and (6) distinct from the neighboring mucosa.<sup>4</sup> However, diagnostic features of intracystic papillary neoplasm of gall bladder are not well defined till date. Four histological subtypes for Intraductal Papillary Neoplasm of Bile Duct (IPNB) has been reported namely pancreaticobiliary, oncocytic, gastric, and intestinal.<sup>5</sup> The histopathological features of ICPNG resembles with that of IPNB. Differentiation between subtypes is made according to morphology seen on hematoxylin and eosin staining and immunohistochemical features of mucin glycoproteins. Pancreaticobiliary is associated with an invasive phenotype and has worse prognosis.<sup>6</sup> Previous research has revealed, ICPN contain high-grade epithelial neoplasia or carcinoma. Thus, regardless of the level of dysplasia or presence of malignancy, treatment is compulsory, because a single lesion harbors heterogeneity of pathology, and to prevent complications such as obstructive jaundice and cholangitis.<sup>7</sup> Preoperative assessment is advocated to evaluate extension of disease, and surgical resection is recommended for patients without distant metastasis. The surgical approach depends on tumor location, with pancreaticoduodenectomy (Whipples procedure) being the procedure of choice.<sup>7</sup>

It is difficult to distinguish ICPN, and there is no proper description about its management in 2010, WHO classification. In present case, macroscopically Gall bladder (GB) wall thickness measures 0.1 to 0.2 cm, mucosa shows multiple nodular growths of size ranging from 0.3 to 1 cm, with some having multiple papillary excrescences. Cut surface of larger nodule is solid, grey white. Microscopic findings state tumor cells arranged in complex papillary pattern with fibrovascular core arising from gall bladder mucosa. Few of the Rokitansky Aschoff sinuses (RAS) also involved by these tumor cells. Adjacent gall bladder mucosa shows pyloric metaplasia.

Although, histopathological report showed papillary growth with few RAS involved, due to lack of proper preoperative investigations, only on the basis of ultrasound report, cholecystectomy without lymphadenectomy was performed. Studies have shown gallbladder adenocarcinoma or ICPN rising in RAS have been reported.<sup>8</sup>

## Conclusion

Proper preoperative evaluation, with radiological investigations including CECT and MRI should be

warranted in suspected ICPNG. And, if diagnosed with ICPNG, it is essential to determine prognosis, and select appropriate treatment measures.

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