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Intracholecystic papillary neoplasm- A case report

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Abstract*:*
Intracholecystic papillary neoplasm (ICPN) is defined as a noninvasive mass forming papillary tumor which is detected macroscopically in the gallbladder. Papillary adenoma and adenocarcinoma of the gallbladder are spectrum of tumors at different stages of intracystic papillary neoplasms of gall bladder. It is a premalignant lesion of the biliary tract and is a counterpart of intraductal papillary-mucinous neoplasm (IPMN) .We report a case of Intracholecystic papillary neoplasm (ICPN) in the gall bladder in a 65 year old woman.
Keywords*: Intracholecystic papillary neoplasm, gall bladder, non-invasive*

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I. Introduction:

Mass forming, noninvasive neoplasms of the gall bladder are ICPN's and gall bladder adenomas. While adenomas are benign, Intracholecystic papillary neoplasms (ICPN's) are preinvasive neoplastic lesions characterized by papillary growth in the gallbladder ,is a counterpart of intraductalpapillary-mucinous neoplasm (IPMN) in the pancreatic duct epithelium.(1)[2] ICPN's display morphological heterogeneity and hybrid cell differentiation patterns, not only histologically but immunohistochemically. In the absence of invasive component the overall prognosis is good for ICPN's.

II. Case presentation:

A 65-year-old female complaining of pain abdomen and a palpable mass was admitted in hospital. Blood tests showed slightly elevated aspartate aminotransferase, alanine phosphatase and gamma-glutamyl transpeptidase with normal levels of alkaline phosphatase, total bilirubin carcinoembryonic antigen, and carbohydrate antigen 19-9.

Ultrasound abdomen showed a polypoid mass of size 2x2 cms in the body of gallbladder. Computed Tomography images (Figure 1) and Magnetic Resonance Imaging pictures (Figure 2) showed an ill-defined soft tissue dense lesion noted in the body and neck of gall bladder. Cholecystectomy was done and the specimen sent for histopathological examination. Gross examination showed polypoid projections of size 2x2cm in the body of gallbladder. Microscopy revealed papillary tufts lined bycuboidal to columnarepithelium showing features of low-grade dysplasia and therefore it was diagnosed as ICPN (Figure 3-A, B).

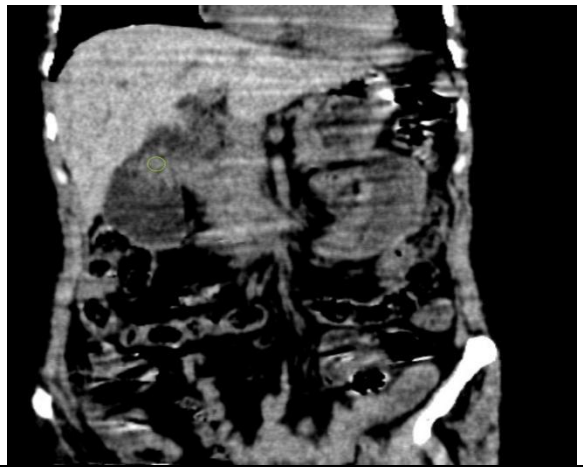

Figure 1:CT image showing 2.4×2.2cm ill-defined soft tissue lesion

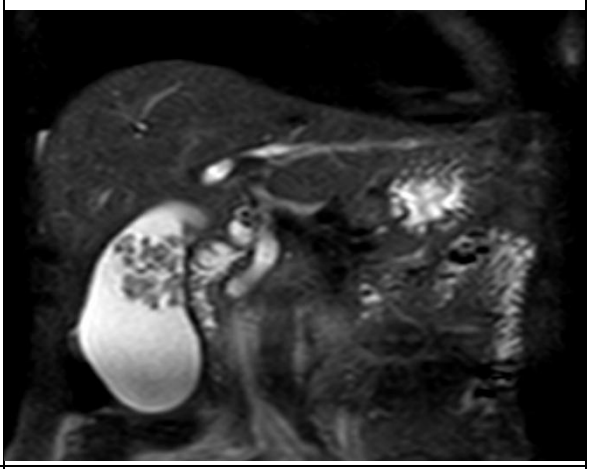

Figure 2:T2-spair hypo intense soft tissue lesion at neck of gall bladder

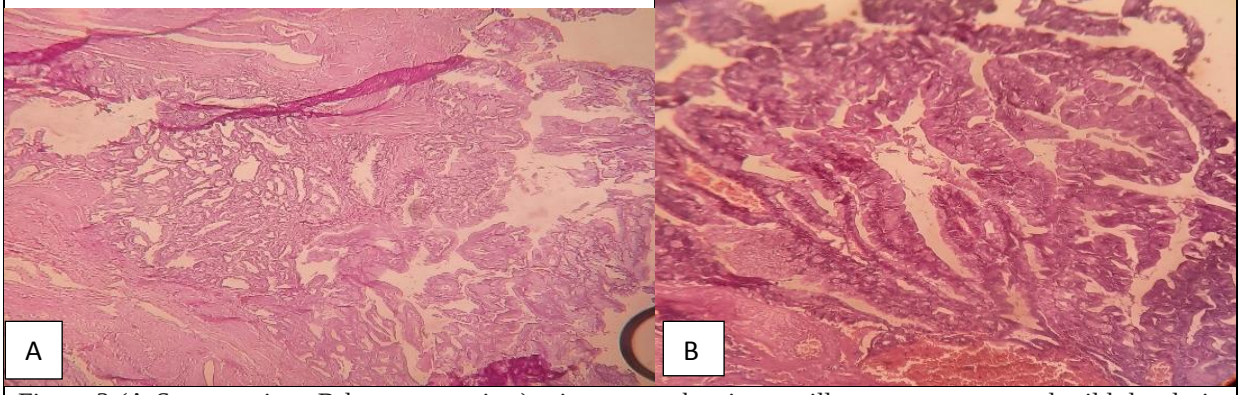

Figure 3 (A-Scanner view, B-low power view)-microscopy showing papillary arrangement and mild dysplasia of gall bladder mucosa

III. Discussion:

ICPN was first described as gallbladder lesions of intraductal papillary neoplasm of bile duct (IPNB) in the 2010 WHO classification and was classified as preinvasive lesions of biliary system in the same category as adenoma, biliary intraepithelial neoplasia, and mucinous cystic neoplasm. [3]

The clinical features of ICPN depend mainly on their size. They occur in older adults, who are typically in their early 60's at the time of diagnosis. At clinical presentation, patient may have pain, or the tumor may be detected incidentally.

Radiologically, almost 50% of cases are perceived as cancer, where as the others are interpretated as polypoid tumor. Approximately 10% are not detected clinically, presumably because they are mistaken for stones or sludge. Rarely patient have Peutz- Jeghers [4] or Gardner syndrome [5] or an anomalous union of pancreaticobiliary ducts. Some cases are associated with a Brunner gland hamartoma of duodenum. There are geographic differences in the incidence, histologic types, and association with invasive carcinoma. [6]

Macroscopically ICPNs are characterized by large villous or papillary growth with a feathery or cauliflower-like pattern, or by smooth-surfaced polypoid projections that may be pedunculated or sessile. [2] The lesions are multifocal. They are common in the body or fundus of the gallbladder and may grow as large as 7cms in the maximum dimension.

Microscopically the lesions show predominantly papillary (or villous), pattern, but a significant proportion shows a mixed tubulopapillary pattern. The risk of malignancy is proportional to the amount of papillae formation. Various cell lineages that recapitulate the normal cell types in the GI tract can be observed in the tumors. Four morphologic types have been described biliary, gastric, intestinal and oncocytic, but the clinical significance is not yet known.

The immunophenotype of ICPNs corresponds to their line of differentiation. Most are cytokeratin 7 (CK7) positive, and many express mucin-related glycoproteins and oncoproteins, including carcinoembryonic

antigen (CEA). Tumor protein p53 (TP53) is expressed in approximately one-third of cases, mostly in the biliary subtype with high grade dysplasia

ICPN rarely infiltrates and metastasizes, and the prognosis for ICPN is typically much better than that for gallbladder adenocarcinoma. The 5-year survival rate for ICPN is 60% if including invasive carcinoma and 78% if excluding the invasive region. In contrast, the 5-year survival rate for gallbladder adenocarcinoma is 30%. [2]

Features that favor carcinoma include wide separation of glandular units, their irregular contours cytologic differences from the surface lesion (including paradoxical differentiation with more abundant cytoplasm and tubule formation), foamy gland features [2,10],and cell clusters that reside in clefts. Extension of dysplastic epithelium into Rokitansky-Aschoff sinuses creates a pseudo invasive appearance. [11] in the present case the tumor is showing extensive papillary formations,lined by cells with mild dysplasia. No invasion is noted.

IV. Conclusion:

This case is presented in view of its rarity. Knowledge regarding newer entities like ICPN is essential as they have good prognosis.

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