

# Extensive pyloric metaplasia of tubulo-papillary adenoma of the gall bladder

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## Abstract

Gall bladder adenoma is a benign neoplasm of glandular epithelium, which is typically polypoid and well demarcated. Tubulo-papillary adenoma is a microscopic variant of gall bladder adenomas. The pyloric type of metaplasia in such a variant occurs either alone or with intestinal metaplasia. We report such an uncommon histopathological variant of gall bladder adenoma at our institute.

## CASE HISTORY

A 49-year-old Hindu female housewife residing in Mumbai came with complaints of dull aching pain in the right hypochondrium, on and off since four years. She had a history of flatulent dyspepsia. There was no history of any trauma or jaundice in her past. She did not have any major medical illness or any history of surgery done in the past. She was postmenopausal (four years).

On examination, she was averagely built and nourished. General examination did not reveal any abnormality.

On per abdominal examination, she had mild tenderness in the right hypochondrium without any guarding and the rest of the abdomen was within normal limits (WNL). Per rectal examination was WNL.

On investigating, her Hb was 12.2 g%, WBC count 12,200/cumm, ESR 41, LFT: AST 20, ALT 24, Alkaline Phosphatase 181, Bilirubin: total 0.8 and direct 0.2 mg%, HBsAg and HIV: NR.

Per abdominal USG showed a soft-tissue mass in the gall bladder (suspected polyp or neoplasm). CT scan (plain and with contrast) of the abdomen revealed an intraluminal gall bladder polyp without any serosal breach or liver involvement.

A decision to perform a laparoscopic cholecystectomy was taken. Laparoscopic cholecystectomy was performed using '3 port technique'. Operative findings included a long and distended gall bladder, a solitary irregular 1.5cm polyp with

sludge within the gall bladder and normal serosa; the rest of the visera was WNL.

Post-operative recovery was uneventful. At follow-up after one year the patient is asymptomatic.

## HISTOPATHOLOGY

Gross examination: Partially cut open specimen of a gall bladder measuring 7x2.5x1cm with external congested surface. The cut surface showed a polypoidal grey-white growth of 1.5x0.6cm with papillary projections and the rest of the mucosa flattened.

## Figure 1

Figure 1: Cut open gall bladder polyp



Microscopically, sections from the gall bladder mass showed tightly packed tubules lined by a single layer of columnar

cells with pale abundant apical mucin and features of pyloric epithelium. The surface epithelium showed reparative atypia. Surrounding gall bladder mucosa showed extensive pyloric metaplasia. There was no evidence of malignancy in multiple sections studied.

### **DISCUSSION**

Gall bladder adenoma is a benign neoplasm of glandular epithelium, which is typically polypoidal and well demarcated.

Microscopically, adenomas are divided into three types – tubular, papillary and tubulopapillary. The epithelium is cuboidal or columnar, mucus-secreting and with at least mild dysplasia. Rarely, adenomas consist of glands lined by colonic-like epithelium and small group of Paneth cells.

In these adenomas, silver stains and immunocytochemistry can demonstrate a variable number of endocrine cells. These cells contain serotonin and/or peptide hormones. Adenomas of the gall bladder and extra hepatic bile ducts are usually solitary, measuring less than 2cm in diameter.

Approximately one third, however, are multiple. Rarely, they are so numerous that they fill the lumen of the gall bladder. In the gallbladder they are usually asymptomatic, whereas in the extrahepatic bile ducts they often cause obstruction.

Adenomas are either pedunculated or sessile. Fewer than 50% are associated with cholelithiasis. Occasionally, adenomas occur in association with Gardener syndrome or with Peutz-Jeghers syndrome.

In the tubulopapillary variant, an adenoma is composed of tubular glands and papillary structures, each contributing to more than 20% of the tumor.

These lesions are commonly seen in females in their mid 40s and mostly detected incidentally post cholecystectomy.

Pyloric gland metaplasia is a lesion in which pyloric-type glands occur in the wall of the biliary tract. The glands form small lobules which are usually confined to the lamina propria. Rarely, however, they may extend to the muscle layer and even to the serosa.

Columnar cells with basal nuclei and vacuolated cytoplasm line the glands. In some cases endocrine and Paneth cells are found among the mucin-containing cells. Pyloric gland metaplasia occurs either alone or along with intestinal

metaplasia. This lesion is usually associated with chronic cholecystitis.

Pre operatively, an USG of the abdomen done by an expert radiologist is sufficient but CT scan gives better morphological delineation about a polyp and its extent, serosal infiltration and liver status along with regional lymph node status.

During open cholecystectomy, the entire biliary tree should be carefully examined to detect any synchronous polyps, along with palpation of GI tract. However, during laparoscopic cholecystectomy, this aspect is of limited role, but intra-operative USG or cholangiogram is helpful.

Laparoscopic cholecystectomy is the treatment of choice in a solitary small polyp without any extension as in our case.

Since there is a 10% chance of a large sessile gall bladder polyp having a malignant potential, a six-monthly USG check is mandatory along with clinical evaluation.

In our case, in view of extensive pyloric-type of metaplasia, we advised our patient six-monthly follow-up.

In this article, we have reported an uncommon histopathological variant of tubulopapillary adenoma of the gall bladder which is commonly associated with chronic cholecystitis.

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