

Adenomatous Hyperplasia of the Gallbladder

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Adenomatous hyperplasia of the gallbladder is an uncommon condition, particularly in men. A literature search yields minimal information on this entity, thus suggesting the infrequency of its occurrence. Adenomyomatosis is an entity that closely resembles adenomatous hyperplasia but has hypertrophy of the muscular layer and extensive Rokitan-sky-Aschoff sinuses. We report the finding of adenomatous hyperplasia in a middle-aged male in the setting of symptomatic cholelithiasis.

Key words: adenomatous hyperplasia ■ gallbladder

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INTRODUCTION

Adenomatous hyperplasia of the gallbladder is a benign lesion that occurs infrequently. Its occurrence in men is even less frequent with a male:female ratio of 1:13. Adenomatous hyperplasia is considered a benign pseudotumor of the gallbladder and has no known malignant potential.^{1,2} It can be diffuse or focal in its presentation.³ Given its benign character, cholecystectomy should be curative with regards to symptomatology, and no further diagnostic studies are warranted. We present a case of a middle-aged male with diffuse adenomatous hyperplasia.

CASE PRESENTATION

A 58-year-old male presented to the emergency department with a 10-hour history of constant, progressively worsening, sharp right upper quadrant abdominal pain with associated nausea and bilious emesis. He had a two-month history of intermittent pain. He denied radiation to any other part of the body. His pain was refractory to omeprazole. In addition to nausea and vomiting, review of systems included diarrhea and an unintentional 17-lb weight loss over the last month and a half. He denied fever or chills. His past medical and surgical history was significant for gastroesophageal reflux disease, hepatitis C and bilateral inguinal hernia repair.

He admitted to a 24-pack-year history and occasional cannabis use.

Physical exam revealed a well-developed male mildly distressed secondary to his abdominal pain. He was alert and oriented to person, place and time. His abdomen was soft, nondistended and tender to palpation in the right upper quadrant. He had a positive Murphy sign. No rebound tenderness, bruits, masses or organomegaly could be appreciated. He had systolic hypertension (142/64 mmHg); otherwise, he was afebrile and his vital signs were stable. His laboratory studies revealed a mild metabolic alkalosis with a serum bicarbonate of 32.2. The rest of his labs were all normal, including his white blood cell count, liver function tests, amylase and lipase. A right upper quadrant ultrasound revealed a 2.6-cm gallstone within a partially contracted gallbladder, a moderately thickened gallbladder wall at 4.5 mm and a moderately dilated common bile duct at 8.9 mm in diameter. There was no intrahepatic biliary dilatation.

The patient was subsequently scheduled for a laparoscopic cholecystectomy. His procedure was without complication. His postoperative course was unremarkable, and he was discharged on postoperative day 1 tolerating a regular diet.

His pathology revealed on gross examination an 8.5x2.8x2.0-cm gallbladder. A single, barrel-shaped gallstone brownish-red in color measuring 2.5x2x1.5 cm was delineated. The mucosal surface was thick and nodular. Microscopically (Figure 1), the gallbladder mucosa revealed elongated papillary folds that appeared fibrotic and had a mild chronic inflammatory infiltrate. Numerous deep-seated Rokitan-sky-Aschoff sinuses were present. Patches of chronic inflammatory cells were seen within the muscularis. The wall appeared generally thickened and fibrotic. Pyloric metaplasia was noted, there was no evidence of atypia.

DISCUSSION

Adenomatous hyperplasia is an uncommon and unique entity. It is one of the many benign morphohistological changes that occur in the gallbladder. Adenomatous hyperplasia has been included in the category of cholecystitis glandular proliferans⁴ along with adenomyomatosis and diverticulosis of the gallbladder. There is, however, clear

evidence that adenomatous hyperplasia can be primary in origin and occur outside the setting of cholecystitis.⁵

Patients may present with signs and symptoms of chronic cholecystitis or acute on chronic cholecystitis⁴ such as right upper quadrant pain, nausea and vomiting associated with meals. Right upper quadrant abdominal ultrasound can reveal a thickened gallbladder wall; cholelithiasis is variable. Diagnosis is made by histology post-operatively. Jung et al. performed a retrospective study evaluating gallbladder wall thickening in 342 patients who had undergone magnetic resonance cholangiography prior to their cholecystectomies. A gallbladder wall ≥ 3 mm in thickness was defined as thickened. Of the 342 cases, 144 patients had thickened gallbladders by definition (94 men and 50 women). No diagnosis of adenomatous hyperplasia was made in this study, but adenomyomatosis was diagnosed with a sensitivity of 100%, specificity of 99% and positive predictive value (PPV) of 91%. Gallbladder carcinoma, which can also present with wall thickening, was diagnosed with a sensitivity, specificity and PPV of 92%, 97% and 73%, respectively.⁶ Epithelial lesions involved in gallbladder carcinogenesis are dysplasia and adenomas.⁷

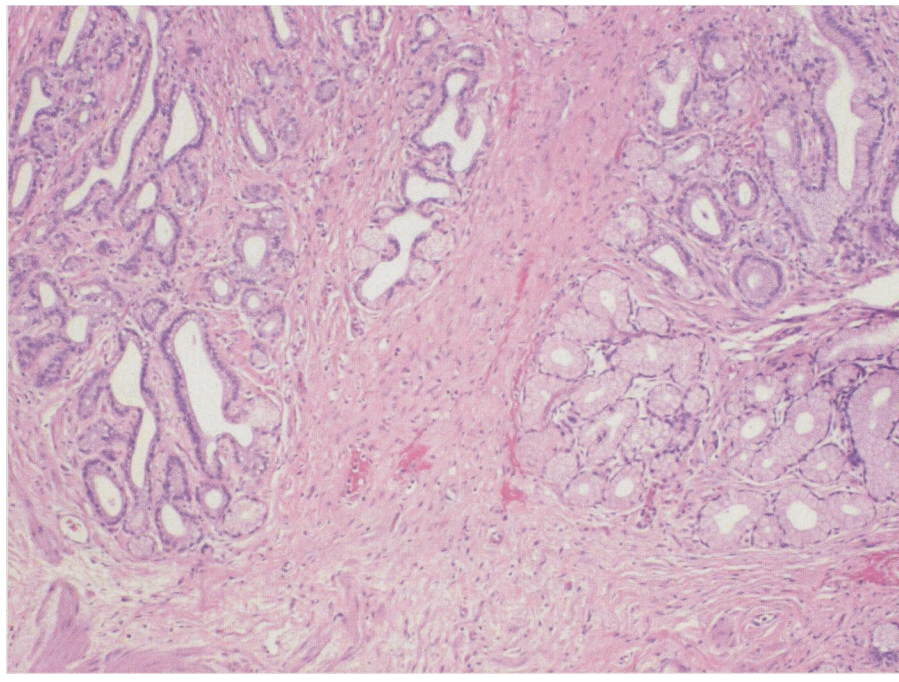
Histologically, adenomyomatosis is characterized by increased proliferation of the mucosa in addition to hypertrophy of the muscular layer and numerous out-pouchings of the mucosal glands seen in between the muscle bundles. Conversely, upon microscopic examination of a gallbladder with adenomatous hyperplasia, increased proliferation of the mucosa only without mus-

cular hypertrophy is seen.^{3,7} Both can be seen in the setting of chronic cholecystitis and in conjunction with the presence of gallstones. These lesions may be primary in the absence of other diseases of the gallbladder.⁵

Tyagi et al. studied 415 cholecystectomy specimens and reported frequencies of morphohistologic changes in addition to demographics. In this study, there were 42 (10.1%) overall cases of adenomatous hyperplasia with associated chronic cholecystitis. Gallstones were observed in 28 (66.7%) observed cases (6.7% of total cases). A female preponderance was evident with a male:female ratio of 1:13. Two types were identified: 1) spongioid in 14 (33.3%) of identified cases (3.4% of overall cases) described as prolonged but coalesced villi; 2) villous hyperplasia was observed in 22 (52.4%) identified cases (5.3% of overall cases) and characterized by abnormally long and ramifying villi. In six (14.3%) cases (1.4% of total cases) both types were identified. Also of note, diffuse pattern was more common in 31 (73.8%) identified cases (7.5% of total cases). Mucosal hyperplasia was seen in two sections in eight (19.1%) cases (1.9% overall cases) and in one of the four total sections in three (7.1%) cases (0.7% overall cases).³ Christensen et al. reviewed 180 cases of tumors and pseudotumors of the gallbladder. In their study, 18 cases (10%) of adenomatous hyperplasia were identified. Six cases (3.3%) were associated with cholelithiasis.^{2,5} Elfving et al. reported that hyperplasia of the gallbladder was present in 22% of their 104 patients who presented with calculous cholecystitis. Two hypotheses were put forward in this paper. These authors suggested, in this study, that the hyperplastic mucosa absorbs more bile than normal and precipitation occurs with the increasing concentration, and this gives rise to stone formation. The other hypothesis proposed in this paper is that primary cholelithiasis causes secondary hyperplasia because of mechanical irritation by the calculi.^{5,8}

Our patient presented with diffuse-type villous mucosal hyperplasia of the gallbladder with pyloric metaplasia in the setting of chronic cholecystitis with symptomatic cholelithiasis. He fared well postoperatively, and his symptomatology was resolved on follow-up in clinic. Given the benign nature of his lesion, no further diagnostic work-up is necessary.

Figure 1. Adenomatous hyperplasia: the surface shows hyperplasia of metaplastic pyloric-type glands, and benign branching mucous glands fill the lamina propria (10X)



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