

# Inflammatory Polyp of the Gallbladder Mimicking Early Polypoid Carcinoma

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## Key Words

Inflammatory polyp · Gallbladder polyp · Nonneoplastic polyp · Cholecystectomy

## Abstract

We treated a 69-year-old male with a 16-mm polyp of the gallbladder. Enhanced computed tomography demonstrated marked enhancement. With a tentative diagnosis of early polypoid cancer of the gallbladder, open cholecystectomy was performed. Intraoperative ultrasound showed hyperechoic spots on the surface of the polyp with an inner echopenic area. The histological diagnosis was an inflammatory polyp that manifested nonneoplastic, edematous stroma, and infiltration of lymphocytes and plasmacytes.

## Introduction

Despite recent advances in imaging modalities, it is very difficult to distinguish benign lesions from malignant lesions presenting as polypoid lesions of the gallbladder (PLG). The current consensus regarding a treatment strategy for PLG is that a solitary, sessile polyp larger than 1 cm and a patient older than 60 years should be removed surgically because it can mask malignancy [1]. We treated a patient with an inflammatory polyp of the gallbladder mimicking early polypoid cancer and discuss this rare entity.

## Case Report

A 69-year-old male was admitted to our hospital with a PLG that was found incidentally. The results of complete blood count and blood chemistry were within normal limits. Tumor markers such as carcinoembryonic antigen and cancer antigen 19-9 were also within normal range. Physical examination showed no abnormal findings. Ultrasonography (US) revealed a polypoid lesion with isodensity of the liver measuring 16 mm in maximum size in the fundus of the gallbladder. Enhanced computed tomography (CT) demonstrated marked enhancement of the polyp, although it was not

clearly detected on unenhanced CT ([fig. 1a](#)). Magnetic resonance imaging showed a subpedunculated and smooth-surfaced polyp with the upper two-thirds of its mass constricted. With a tentative diagnosis of early polypoid cancer of the gallbladder, open cholecystectomy was performed. Intraoperative US showed a mushroom-shaped polyp with hyperechoic spots on the surface and with an inner echopenic area ([fig. 1b](#)). Resected specimens revealed a smooth-surfaced polyp with the upper two-thirds of its mass constricted ([fig. 2](#)). Histological study revealed a nonneoplastic polyp with edematous stroma and infiltration of lymphocytes and plasmacytes with partial formation of lymph follicles. Atypical epithelium was not present, although the surface epithelium was complicated and intestinal metaplasia was found. A microscopic intramural calculus was present, although there were no macroscopic stones in the gallbladder ([fig. 3](#)). Ultimately, this lesion was diagnosed as an inflammatory polyp of the gallbladder.

## Discussion

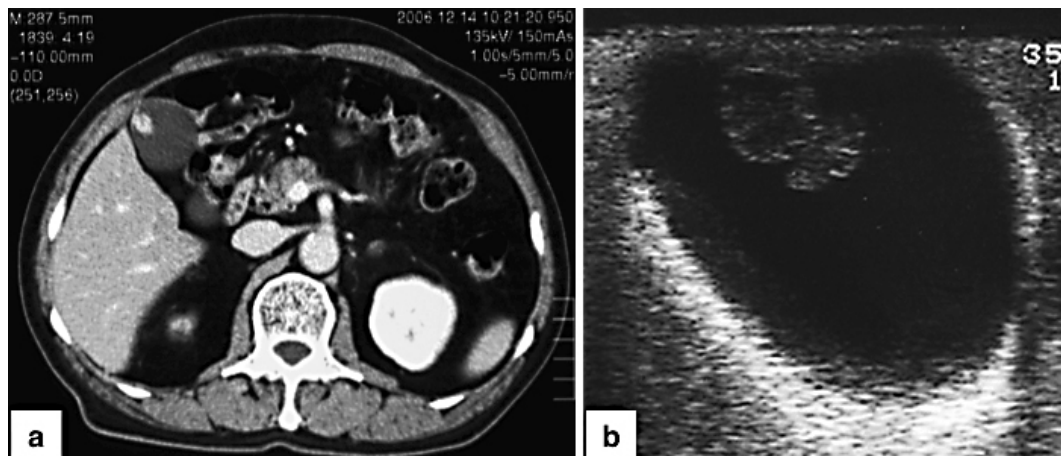
Inflammatory polyps of the gallbladder are defined as tumor-like lesions in the category of benign tumors and tumor-like lesions of the gallbladder and extrahepatic bile ducts that have radiologic manifestations [2]. Among the tumor-like lesions of the gallbladder, inflammatory polyps are relatively rare, accounting for 1.4 to 12% of PLG in recent published data; hence cholesterol polyps comprise the majority of nonneoplastic polyps of the gallbladder [3–7]. Inflammatory polyps of the gallbladder histologically consist of vascular connective tissue containing inflammatory infiltrates, and there is hyperplastic epithelial invagination. These polyps appear to be the result of enlargement and fusion of villi due to chronic inflammation [2]. In the present case, a microscopic intramural calculus was found histologically.

Very few case reports of inflammatory polyps of the gallbladder have been published [8, 9], so the typical characteristics of imaging findings have not been described precisely. Transabdominal US of these lesions has shown an isoechoic or a hypoechoic appearance [8, 9]. This differentiation of ultrasonographic findings may depend on the size of the polyp; the former measured 15 × 8 mm and the latter 8 × 3 mm. Kyokane et al. [10] reported the presence of a hyperechoic line around the inflammatory polyp, as intraoperative US showed hyperechoic spots on the surface of the polyp in the present case. This finding probably depends on the difference of density originating from the complication of the epithelial surface of the polyp. Endoscopic US showed, however, that hyperechoic spots were nonspecific findings for an inflammatory polyp because aggregations of hyperechoic spots, which represented multiple granules of cholesterosis, have also been recognized in a high percentage of cholesterol polyps [11–13].

CT evaluation is considered to be helpful to distinguish neoplastic lesions from nonneoplastic ones. Furukawa et al. [14] reported that not all cholesterol polyps and hyperplastic polyps were detected on unenhanced CT, and concluded that the configuration of polypoid lesions depicted on enhanced CT and visualization of them on unenhanced CT are helpful in differentiating neoplastic lesions that should be resected from other benign lesions.

In conclusion, intraoperative US as well as endoscopic US could be helpful to differentiate benign polypoid lesions from malignant ones. The histological manifestation of inflammatory polyp of the gallbladder should guide the examination of US findings.

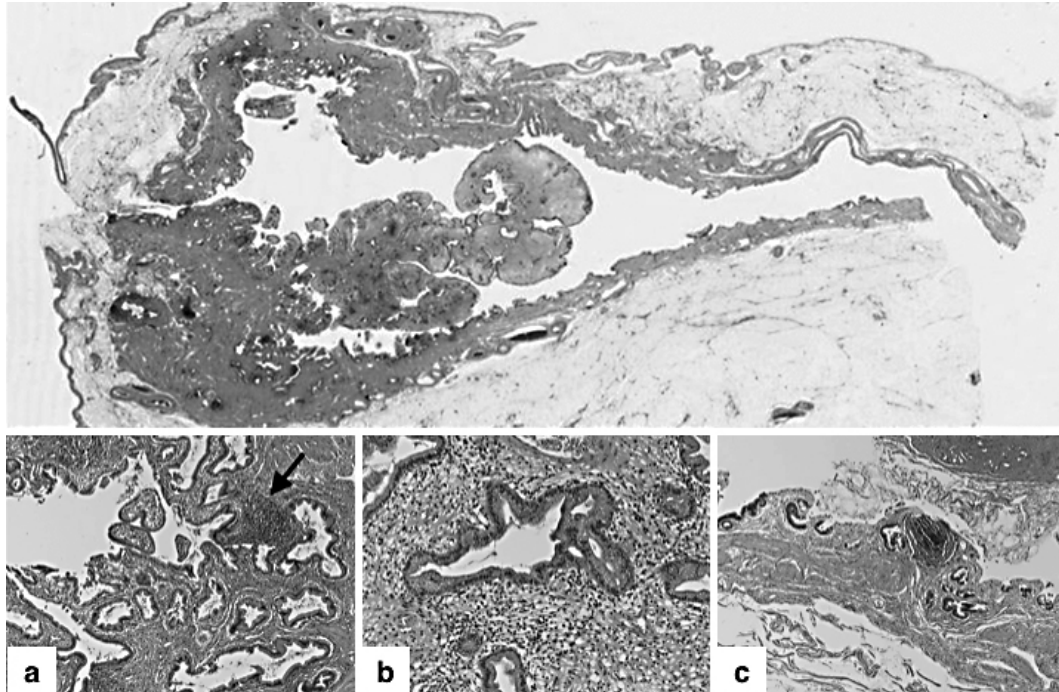
**Fig. 1.** **a** Enhanced CT showing marked enhancement of the polyp in the fundus of the gallbladder. **b** Intraoperative US showing the mushroom-shaped polyp with hyperechoic spots on the surface, and with an inner echopenic area.



**Fig. 2.** Resected specimens showing a smooth-surfaced polyp with the upper two-thirds of its mass constricted.



**Fig. 3.** Histological study revealing a nonneoplastic polyp with edematous stroma and infiltration of lymphocytes and plasmacytes with partial formation of lymph follicles (arrow). The surface epithelium was complicated (a), and intestinal metaplasia (b) was found. A microscopic intramural calculus (c) was present.



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