# Gallbladder Disease among Obese Patients in Taiwan

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### 摘要

#### **Abstract**

Background Obesity is a risk factor for gallbladder disease. The authors analyze the prevalence and clinicopathology of gallbladder disease among obese patients in Taiwan.

Methods Prevalence and various clinical factors associated with cholelithiasis were studied in 199 patients who were undergoing bariatric surgery for obesity. Clinical data (gender, age, BMI and associated diseases), laboratory evaluation and immunoglobulin G antibodies against Helicobacter pylori were obtained from the patient records. The histopathologic findings of the gallbladder were also examined retrospectively. The degree of acute inflammation, chronic inflammation, cholesterolosis, cholesterol polyp and gastric metaplasia was determined and scored.

Results Of the patients, 91% (n = 181) were females and 9% (n = 18) were males, age  $34.26 \pm 8.41$  years, with mean BMI  $35.28 \pm 6.11$  kg/m2. The prevalence of cholelithiasis was 10.1%. Increased diastolic blood pressure and HBsAg carrier were the only significant factors associated with cholelithiasis. All obese patients in our study presented with variable degrees of chronic mononuclear cell infiltration in the gallbladder mucosa. Cholesterolosis was present in 100 patients (50.3%), followed by gastric metaplasia (27.1%), cholesterol polyp (16.1%) and acute inflammation (9.5%). Multivariate analysis showed an association between cholelithiasis and acute and chronic inflammation. The predictors of cholesterolosis were BMI, waist circumference and high-sensitivity C-reactive protein. The seroprevalence of H. pylori was 42.2%. Older age, abnormal liver function tests, calcium and HBsAg carrier were significantly different between H. pylori-seropositive and H. pylori-seronegative obese patients. However, we could rarely find H. pylori within the gallbladder mucosa.

Conclusion Cholelithiasis in Asian obese patients is significantly associated with increased diastolic blood pressure and hepatitis B surface antigen carriers.

Because chronic liver disease seems to be a risk factor for cholelithiasis in both non-obese and obese populations, prophylactic cholecystectomy can be considered in obese patients with HBsAg positivity. We did not find evidence that H. pylori has a role in the pathogenesis of gallbladder disease and gallstone by histologic and serologic examinations. Furthermore, mucosal abnormalities of acute and chronic inflammatory cell infiltration are common in obese patients, which related to cholelithiasis.

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