

# MANAGEMENT OF POLYPOID LESIONS OF THE GALL BLADDER

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## ABSTRACT

*Objective* To analyze the demographic and clinical characteristics of patients diagnosed with polypoidal lesions of gall bladder and to correlate the radiological and histopathological diagnosis.

*Study design* Descriptive study.

*Place & Duration of study* At Hamdard University Hospital Karachi over a period of 9 years (July 1999- June 2008).

*Patients and Methods* The study included all those patients who were operated for gall bladder polyps. Patients of both sexes above 14 years of age diagnosed on the basis of ultrasound and underwent cholecystectomy were included in the study.

*Results* Twenty eight patients were included in this study with male to female ratio of approximately 1:8. Mean age of patients was 47.5 years. Twenty five patients were having symptomatic gall bladder disease. On the basis of ultrasound 19 patients had solitary polyp while 9 had multiple lesions. All these patients were operated laparoscopically; only one patient had a conversion to open cholecystectomy. Out of total 28 patients 19 were histopathologically proven benign polyps, one patient had severely dysplastic polypoidal lesion while eight patients had chronic cholecystitis with prominent folds with or without gall stones. Of 19 patients with benign disease 15 had cholesterol polyps and remaining 4 had adenomas.

*Conclusions* Gall bladder polyps are important cause of symptomatic gall bladder disease with peak incidence in 4<sup>th</sup> to 5<sup>th</sup> decade. Most of the gall bladder polyps are benign with cholesterol polyps and adenomas being the commonest lesions found on histopathology. Ultrasonography is good diagnostic tool with reasonable accuracy.

*Key words* Polypoidal lesions, Gall bladder, Cholesterol polyps, Gall bladder adenomas.

## INTRODUCTION:

With increasing ultrasound use the polypoid lesions of gall bladder are more frequently discovered. The polyp is defined as an elevation of the gall bladder mucosa and it usually does not create an acoustic shadow like

gall stone and does not change its position in relation to patient's posture. Polyps are found in approximately 5% of adult population affected by gall stone disease.<sup>1</sup> Majority of the gall bladder polyps are benign, most commonly being cholesterol polyps. It is the malignant transformation of the polyp that is the cause of concern.<sup>1</sup> The potential range of pathological lesion is large. Christenson and Ishak have given a comprehensive classification of polypoid lesions of gall bladder (PLG) with categorization in 2 broader groups as benign and malignant.<sup>2</sup> As ultrasonography is frequently used to assess biliary diseases, patients often present with

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ultrasound report describing PLG. These patients with biliary symptoms and ultrasonographic findings suggesting polypoid lesions of the gallbladder undergo cholecystectomy.<sup>3</sup> The polyps can be easily demonstrable on ultrasound once they become more than 5mm in size. Ultrasonic differentiation between benign and malignant polyps is difficult and at times differentiation between polyps and calculi disease is not an easy task for an inexperienced sonologist.

Simple cholecystectomy is the treatment of choice in gall bladder polyps. Cholecystectomy is curative in early gall bladder carcinoma as well.<sup>4</sup> These curative resections are true for those cases in which they are performed for clinically benign disease and the carcinoma diagnosed on histopathology.<sup>5,6</sup> A study from Turkey has shown that risk factors for malignancy in patients with PLG includes size of polyp >10mm in diameter, age >60 years and coexistence of gallstones.<sup>7</sup> This study was conducted to find out demographic and clinical characteristics, ultrasonographic findings and histopathological diagnosis of PLG in our hospital.

#### PATIENTS AND METHODS

The case records of patients operated with diagnosis of polypoid lesion of gall bladder over a period of 9 years, from July 1999 to June 2008 at Hamdard University Hospital Karachi were reviewed. All the patients above 14 years of age of both sex who were operated for diagnosis of polypoid gall bladder lesion were included in the study. Those patients who had malignancy were excluded from the study.

All patients were diagnosed on the basis of ultrasound performed by a senior ultrasonologist. Gall bladder polyp was diagnosed as a lesion projecting into the lumen of gall bladder not causing posterior acoustic shadowing and not moving with the change of position. Laparoscopic cholecystectomy was the treatment offered in these patients. The ultrasonographic findings were correlated with histopathological findings. Data was collected on specially designed proforma.

#### RESULTS

Twenty eight patients were included in the study. Out of these 25 were females and 3 males, with male to female ratio of 1:8. The mean age of the patients was 47.5 years (range 15- 80 years) median being 45 years. Twenty five patients presented with symptomatic gall bladder disease, most of these (20 patients) had symptoms of biliary colic and flatulent dyspepsia. Five patients presented with signs and symptoms of acute cholecystitis. Diagnosis of gall bladder polyp was made incidentally in 3 patients who were asymptomatic and ultrasound was done for other purposes. On the basis of ultrasound 19 patients had solitary polyp

while 9 had multiple lesions. In solitary polyps 18 patients had polyp size of 0.5 to 1 cm. One patient had lesion of 1.5 cm, whereas in patients with multiple polyps all were between 5 to 10 mm in diameter. All patients were subjected to laparoscopic cholecystectomy. Only one patient required conversion to open cholecystectomy due to dense adhesions.

Histopathological analysis of resected gall bladder revealed 19 benign polyps, while one patient had severely dysplastic polypoid lesion. Eight patients had chronic cholecystitis with prominent folds with or without gall stones. Of 19 patients with benign disease 15 had cholesterol polyps and 4 had adenomas.

#### DISCUSSION

Overall gall bladder polyps are much less common than gallstones. They are usually discovered when an ultrasound of the abdomen is performed for the evaluation of biliary type abdominal pain or as an incidental finding when ultrasound is done for other complaints. Nowadays polypoid lesions of the gall bladder are being diagnosed and dealt more frequently owing to improvement in diagnostic facilities. The lifetime prevalence of gallbladder polyps ranges from 1% to 4%.<sup>10</sup>

PLG can occur at any age but more common in 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> decade.<sup>11</sup> This pattern was also observed in our study as peak incidence was seen in 4<sup>th</sup> and 5<sup>th</sup> decade. Ozdemir A and colleagues reported an equal sex incidence of patients with PLG in their series but in our study we had a clear female predominance.<sup>8</sup> The difference could be a chance occurrence or due to small sample size.<sup>8</sup>

Mostly patients with polypoid lesion of gall bladder present with symptoms of right upper quadrant pain similar to that of cholelithiasis. However other presentation can be similar to acute cholecystitis and rarely hemobilia and obstructive jaundice can occur.<sup>12,13</sup> In our patients most common complaint was biliary colic like pain and flatulent dyspepsia (71%) whereas 18% presented with symptoms and signs of acute cholecystitis.

Ultrasound is usually the first line imaging investigation in diagnosis of painful abdominal conditions. The efficacy of ultrasound in diagnosis of gall bladder polyps is controversial. One study reported that ultrasound only detected 57% of patients suffering from polyps.<sup>8</sup> Yang et al have reported sensitivity of ultrasound to be 90% in detecting PLG.<sup>14</sup> Escalona A et al showed in his series that histopathology confirmed the presence of polyps in 79% of patients detected on ultrasound.<sup>9</sup> In our study of 28 patients who were diagnosed on basis of ultrasound as cases of polypoid lesions,

20 (71%) polyps were confirmed on histopathology. These differences can occur as ultrasound is an operator dependent procedure.

Most patients had polyps of less than 1cm in size, only one patient had a lesion of 1.5cm which was further evaluated by CT scan which did not show extension beyond gall bladder. This patient was also operated laparoscopically without any adverse consequences. All resected gall bladders were sent for histopathology. There were 19 benign polyps, while 01 patient had severely dysplastic polypoidal lesion and 08 patients had chronic cholecystitis with prominent folds with or without gall stones. Of the 19 patients with benign disease 15 had cholesterol polyps and remaining 4 had adenomas. Many studies reported that incidence of benign lesion is highest among patients of gall bladder polyps.<sup>15</sup>

### CONCLUSIONS:

The polypoidal gall bladder disease is common in 4<sup>th</sup> to 5<sup>th</sup> decade of life with female predominance. Majority of gall bladder polyps are associated with symptoms of biliary colic and flatulent dyspepsia. Ultrasonography is the most effective diagnostic method for detecting PLG. Cholesterol polyps and adenomas are the most common lesions in gallbladder polyps.

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