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Our experience and results of clinical incidental gallbladder carcinomas

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Abstract

This study aimed to evaluate our experience in incidental gallbladder carcinomas the effect of resection on life time. We suggest that liver resection may contribute to the disease free survival of the patients with incidental gallbladder carcinomas. Between January 2012 and December 2017, 3691 patients who underwent cholecystectomy in the Department of General Surgery of Abant Izzet Baysal University Medical Faculty and who did not consider biliary stricture in their preoperative evaluation were evaluated retrospectively. Patients were grouped according to age, sex, stone size, bile duct wall thickness and histopathological results. The preoperative diagnosis of all patients undergoing cholecystectomy was cholelithiasis. Of the 3691 patients, gallbladder cancer was detected in the evaluation of the pathology specimens of 16 patients (0.50%) of the patients who were diagnosed with gallbladder carcinomas, 12 had female gender and 4 had male gender. All of the patients were found to have adenocarcinoma when the pathology specimens were examined. In the pathology specimens, 2 patients had carcinoma insitu, 2 patients had T1, 5 patients had T2, 7 patients had T3. In this study we share our experience in incidental gallbladder carcinomas and suggest that liver resection may contribute to the disease free survival of the patients with incidental gallbladder carcinomas.

Keywords: Incidental gallbladder carcinomas, gallbladder stones, liver resection, disease free survival, cholecystectomy

Introduction

Gallbladder carcinomas are rare tumors with poor prognosis. Biliary tree tumors are one of the most common cancers, and the 5th most common cancers of the gastrointestinal tract. Biliary cancer is 2-3 times more frequent in males than females, and most commonly seen in 7th decade. It is seen 0.4% in autopsy series and approximately 1% of patients who underwent cholecystectomy because of bile stone. Geographically, biliary incident cancers are more common in the USA, Mexico, Chile, Israel, Poland, India and Japan. The greatest risk factor for the development of gallbladder cancer is gallbladder stones and gallbladder stones and have been found in 95% of patients with gallbladder cancer [1]. The risk of developing cancer within 20 years in patients with biliary stones is less than 0.5% for the entire population, while it is 1.5% for the high-risk group. Although the pathogenesis is unknown, it is associated with chronic inflammation. It is associated with a 10-fold increased risk of cancer in large stones > 3cm [2]. Other risk factors for gallbladder carcinoma include: female sex, obesity,

advanced age, porcelain gall bladder, typhus carriage, mono-silent (> 10 mm) polyps, scleroderma colonitis and exposure to carcinogens. The use of laparoscopic cholecystectomy for benign biliary diseases today has dramatically increased the incidence of incidental gallbladder cancer. This also increased the rate of gallbladder cancer, which had a good prognosis when detected in early stage.

After simple cholecystectomy for benign conditions, the rate of malignancy detected in the pathology specimen varies from 0.3% to 2% and often provides complementary surgical radical treatment.

We aim to evaluate our clinical experience incidental gallbladder carcinomas and we evaluate the patients disease free survival after which we apply resection procedure.

Material and Methods

Between January 2012 and December 2017, 3691 patients who underwent cholecystectomy in the Department of General Surgery of Abant Izzet Baysal University Medical Faculty and who did not consider gallbladder cancer in their preoperative evaluation were

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evaluated retrospectively. Patients were grouped according to age, sex, stone size, bile duct wall thickness and histopathological results. The preoperative diagnosis of all patients undergoing cholecystectomy was cholelithiasis. Preoperative hemogram, cholestasis enzymes, ultrasonography results and pathology results of the patients were evaluated. All of the emergency and elective patients were included in the study. Ultrasonography results were classified as > 3 cm stone, 1-2 cm stone and <1 cm stone size according to stone dimensions. Again, the biliary tree was classified as having wall thickness > 3 mm and wall thickness <3 mm according to wall thickness. Examination of the specimens used according to TNM staging of AJCC in cancer stage. The contribution of T wall invasion to survival and life time of liver resection was evaluated in cases with gallbladder cancer.

Results

Of the 3691 patients with cholecystectomy who were evaluated retrospectively, 1022 were men gender and 2669 were women. The mean age of the patients was 54.86 (range 19-92). Of the 3691 patients, gallbladder cancer was detected in the evaluation of the pathology specimens of 16 patients (0.50%). The mean age of this group was 61.5 (50-86), which was significantly higher than the mean age of the remaining group (table 1). Of the patients who were diagnosed with gallbladder carcinomas, 12 had female gender and 4 had male gender (table 1). All of the patients were found to have adenocarcinoma when the pathology specimens were examined. In the pathology specimens, 2 patients had carcinoma insitu, 2 patients had T1, 5 patients had T2, 7 patients had T3 (table 1).

Eleven patients were electively treated (Table 1), while 5 of the 16 patients who were incidentally diagnosed with gallbladder stone pathology specimens were treated with acute cholecystitis. Of these 16 patients, 2 were operated on before ERCP and stent was inserted.

Patients who underwent cholecystectomy due to the presence of stone at the gallbladder when two of 16 patients were opposed to colon cancer and concomitant gallbladder carcinomas. When the degrees of differentiation in the pathology specimens of patients with incidental gallbladder stones cancer were examined, it was found that 6 had good differentiation, 4 had moderate differentiation, and 6 had worse differentiation (table 1).

In our study, the thickness of the gallbladder wall was found to be 3 mm or less in 4 patients, whereas it was seen that the thickness of the wall was 4 mm or more in 12 patients.

The size of stones were larger than 30mm in 10 patients and 30mm or smaller in 6 patients (table 1).

A lymph node dissection was performed with resection of liver tumor segment 4B and 5 with T2 tumor. The number of patients with T3 is 7. Four patients did not accept resection after cholecystectomy. We performed liver resection 7 of 12 patients with t2 and t3 cancer. One patient was unable to be performed liver resection due to cardiac and pulmoner problems who underwent cholecystectomy performed during advanced colon cancer surgery Two patients underwent segment 4,5,8 resection and lymph node dissection.

One patient who underwent resection in T2 was treated for 5 years, 1 patient for 4 years, 1 patient for 2 years and 1 patients for disease free survival for one year. 1 patient who underwent resection of T3 complained of peritoneal carcinomatosis and liver metastases after completing 3 year disease-free survival period and deceased at 4th year of follow up. The other two patients with T3 disease were completed their 1.5 and 1 year disease-free survival.

Table 1. Demographic and pathological distributions of incidental gallbladder cancer

Age		
≥60 years	13	81.25%
<60 years	3	18.75%
Gender		
Women (n)	12	75.00%
Men (n)	4	25.00%
Wall thickness (mm)		
≤3	5	31.25%
>3	11	68.75%
Stone size (cm)		
<3	6	37.50%
>3	10	62.50%
Elective /Emergent Surgery		
Elective	11	68.75%
Emergent	5	31.25%
Differentiation		
worse	6	37.50%
moderate	4	25.00%
good	6	37.50%
T Stage		
Tis	2	12.50%
T1	2	12.50%
T2	5	31.25%
T3	7	43.75%
Resection		
Yes	7	58.33%
No	5	41.67%

Discussion

Most of the gallbladder carcinomas are unresectable at the time of diagnosis. Due to their aggressive attitudes, the 5 year life span is below 5% and the median life span is about 6 months [3]. Clinical signs and symptoms in gallbladder carcinomas are similar to those of cholelithiasis and cholecystitis. More than half of gallbladder cancer can not be diagnosed preoperatively. Diagnosis is made by examination of the specimens of patients who have benign diseases, for example gallbladder stones, polyps, etc., by the most common diagnostic pathologists [4,5]. The high rate of use of ultrasonography and the worldwide progress of laparoscopic cholecystectomy as a widespread surgical procedure are expected to increase the number of incidentally found gallbladder cancer over time [6,7]. The main goal of treatment in gallbladder carcinomas is surgical resection of the intended R0 without leaving the residual tissue behind. Patients undergoing resection in gallbladder carcinomas have also shown that the 5-year survey rate

ranges from 0-100%. This change is strongly related to the stage of the patient. Simple colecystectomy is sufficient for carcinoma in situ and T1a cases [5,8,9]. Resection (radical cholecystectomy with regional lymph node dissection) should be performed in the patient group of T1b and over in order to perform resection of R0 [8,10].

Our patient found incidence of incidental gallbladder carcinomas 0.5%, which was 0.19% -2.8% in literature [11,12]. In our study, the mean age of the benign patient group who were operated on for gallbladder stones was 54.86 (range 19-92), whereas the mean age of the patients with incidental gallbladder cancer was 61.50 (range 50-86) it is seen that there is a further age group. The gender distribution of gallbladder cancer is three times higher in females than in males [13]. In our study, it was observed that 12 of the 16 patients were female and 4 were male, and the ratio was 3: 1.

Concerning the stone size and number of incidentally detected gallbladder cancers, it was found to be a risk factor for gallbladder cancer, which is a multiple stone in stone and gallstones over 3 cm in previous studies [13,14]. In our study, 16 preliminary ultrasonographic findings of incidentally detected gallbladder cancer patients were found to have a stone size of > 3 cm in 10 gallbladder stones and multiple gallbladder stones in all patients except one. Patients with pathologic end-stage carcinoma in situ in patients with gallbladder cancer and those with T1 results do not require additional treatment for cholecystectomy and 5-year survival is 90-100% in this patient group. Similar results were obtained in our patient series. More than simple cholecystectomy is needed in T2 cancers. Segment 4B and segment 5 resection is the appropriate treatment approach, as the resection of the liver bed adjacent to the biliary tree at a depth of 2 cm is acceptable. In addition, regional lymphadenectomy is needed. When T2 cancer cases are treated with radical cholecystectomy, the 5-year survival rate is 80-90%. Our patient underwent lymphadenectomy with segment 4B and 5 resection in our series and we obtained a similar survival result. In patients without resection, the survey is between 6 and 8 months.

In the last decade in patients with T3 cancer, most centers have reported that aggressive surgery provides 25-50% longer survival in locally advanced disease. In our study, 1 patient who underwent resection of T3 complained of peritoneal carcinomatosis and liver metastases after completing 3 year disease-free survival period and deceased at 4th year of follow up. The other two patients with T3 disease were completed their 1.5 and 1 year disease-free survival.

When the pathologies of patients after resection were evaluated, lymph node metastasis was reported in 1 patient of 7 resected patients, while the lymph node pathologies of other patients were reactive.

Conclusion

In conclusion, we suggest that liver resection may contribute to

the disease free survival of the patients with incidental gallbladder carcinomas.

Competing interests

The authors declare that they have no competing interest

Financial Disclosure

The financial support for this study was provided by the investigators themselves.

Ethical approval

Bolu Abant İzzet Baysal Education and Reserch Ethics commite accept our study in 05.01.2018 and 00060010850 serial number

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