Incidental gallbladder carcinoma in regional clinical centre

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Background and Objectives: The aim of the study is to assess the characteristics, TNM stage and survival rate of incidental gallbladder carcinoma in patients who underwent open cholecystectomy in regional clinical centre. Patients and Methods: We retrospectively analyzed all consecutive cholecystectomies performed during four years period in surgery department and determined incidence, pathological stage and survival rate of incidental gallbladder cancer. Demographics data, surgical management, adjuvant therapy, death or last follow-up. We compared common characteristics and survival between pTis,1a-b and pT2-3 groups of patients who underwent cholecystectomy alone. Results: Gallbladder carcinoma was diagnosed in 21 patients of 3007 cholecystectomies (0.69%). The most of patients had abdominal pain, cholelithiasis and fever. Postoperative pathology showed 20 adenocarcinomas and 1 squamous carcinoma. Seven cases were stage I, 7 stage II, 5 stage III. There was no patient in pT4 stage. The mean age was 60.6 years range (43-75). The 4 patients with pTis and 3 patients with pT1 had a 5-year survival rate of 100%. Patients with pT2-3 GBC had 5-year survival rate 8.34%. We noticed significant difference between these two cancer groups p=0.001. Conclusions: The incidence of incidental gallbladder cancer in this study was 0.69%. The pT-stage is very important factor in overall survival those patients. All cases of pT2-3 incidental GBC should be considered for extended radical resection after cholecystectomy alone.

Key words: incidental gallbladder carcinoma, cholecystectomy alone

INTRODUCTION

The gallbladder cancer (GBC) is quite rare entity, it is the fifth most common gastrointestinal malignancy and it is usually discovered accidentally. It is diagnosed in 0.3-1.5% patients who underwent cholecystectomy. We analyzed all consecutive cholecystectomies performed in our department in four year period and compared characteristics and survival rate between groups established according to the pT.

PATIENTS AND METHODS

We retrospectively analyzed data of 3007 patients who underwent cholecystectomies during 4 year period in Regional University Clinical Centre. Operations included elective due to symptoms gallstone and emergency for acute cholecystitis.

21 cases of incidental GBC were diagnosed. There were 5 men and 16 women. The patients age ranged from 43 to 75 years with mean age of 60.6 years. Two patients had chemotherapy after pathological confirmation of the specimen removed after cholecystectomy. We had no complete data records for 2 patients. The abdominal pain, cholecystitis, fever, nausea, weigh loss and type of procedure were analyzed in all patients with GBC.

The pathological examination was performed at the Department of Pathology, University Clinical Centre Tuzla. TNM staging was determined according to the International Union Against Cancer criteria. Depth of cancer invasion corresponded with T category in this system. However N and M categories of incidental GBC could not be assessed in almost all cases because cancer has not been noticed at the time of operation. Incidental or inapparent carcinoma of the gallbladder was defined as carcinoma unrecognized before and at the time of operation, but diagnosed later on microscopic examination of the specimen.

The pT system is defined as follow: pT1: tumor invades mucosa u muscle layer, pT2: tumor invades peri-muscular connective tissue; no extension beyond serosa and liver; pT3 tumor invades beyond serosa or into adjacent organ or both (extension 2cm or less into liver); and pT4: tumor extends more than 2 cm into liver, or into two or more adjacent organs. The patient characteristics and survival be-
tween pTis,1a-b and pT2, pT3 groups of patients under cholecystectomy alone were compared.

All statistical analyses were performed using SPSS 14.0. The survival curve was calculated using Kaplan-Meier method.

RESULTS

GBC was detected in 21 of 3007 cases of cholecystectomy. There were 16 female (76.19%) and 5 male (23.81%) ratio 3.2:1 with mean age range from 43 to 75 years. In all patients the most common symptoms were abdominal pain and cholelithiasis. The two specimen had characteristic of acute and chronic cholecystitis with pT3 GBC. There were 2321 elective (1223 open, 1098 laparoscopic) and 686 emergency cholecystectomies with no operative deaths. The main characteristics of patients with GBC are shown in Table 1.

We had no histopathological data for two patients. There were no pT4 cancer patients. The 4 patients with pTis and 3 patients with pT1a-b had a 5-year survival rate of 100%. Patients with pT2-3 GBC had 5-year survival rate 8.34%. We noticed significant difference between these two cancer groups p. Survival curves by pT category in 19 patients with incidental GBC treated by cholecystectomy alone are shown in Figure 1. In two cases there were evidence of metastasis to the cystic lymph node and both of them died within 5 months from operation.

DISCUSSION

It is widely accepted that some cases of incidental GBC have good chance for cure (Clinically diagnosed GBC cancer is far advanced and often beyond the scope of resection. GBC is diagnosed pathologically in 0.3-1.5% of cholecystectomy specimens. Among the 3007 cholecystectomies, 21 cases of GBC were diagnosed, equivalent to 0.69% of all procedures.

In accordance with literature we found the occurrence in women to be higher than in men. The patients are old age, mean 60.6 years. Most of them had abdominal pain, cholelithiasis and fever. According to Arnau at al. when symptoms appear they include abdominal pain in 72%, jaundice in 58% weight loss in 47.5%, and fever in 30.8 and ascites in 14%. Pathologic results revealed adenocarcinomas in all cases except carcinoma squamocellulare in one case. The present study demonstrate that cholecystectomy alone provide excellent results in Tis and pT1a-b GBC patients. All patients with Tis and pT1a-b had 100% 5-year survival rate after cholecystectomy alone. Similar results are presented by Bertlett et al. Some authors have reported recurrences in patients with incidental GBC invading muscular layer (pT1b). The study of Ouchi and colleagues have described that two of seven patients with pT1b had venous invasion or lymphatic invasion; findings that support additional resection for pT1b GBC. The other authors reported good results in patients with pTa-b cancers treated with cholecystectomy alone.

On the basis of our results radical second operation for pT1b cancer with negative margin is not indicated and should be avoided in the pT1a-b cancer group. In contrast we had low overall survival rate in patients with pT2-3 GBC after cholecystectomy alone. The 5-year survival of pT2 cancer group was only 8.34%. Three patients with pT3 cancer died of recurrence within 26 months after cholecystectomy. However, patients with pT2-3 incidental GBC have minimally chance for cure by cholecystectomy alone and radical second operation should be considered (14). Yildirim et al. concluded that in patients with pT2-3 incidental carcinoma the completion radical re-operation is the only chance for long term survival.

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>CLINICAL DATA PATIENTS WITH GBC</th>
</tr>
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<tbody>
<tr>
<td>pTis,1a-b CG</td>
<td>pT2-3 CG (No, %)</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>7 (36.8)</td>
</tr>
<tr>
<td>Cholelithiasis</td>
<td>6 (31.6)</td>
</tr>
<tr>
<td>Fever</td>
<td>6 (31.6)</td>
</tr>
<tr>
<td>Nausea</td>
<td>5 (26.3)</td>
</tr>
<tr>
<td>Weight loss</td>
<td>3 (15.8)</td>
</tr>
<tr>
<td>Open ch</td>
<td>7 (36.8)</td>
</tr>
<tr>
<td>Laparoscopic ch</td>
<td>0</td>
</tr>
<tr>
<td>Elective ch</td>
<td>7 (36.8)</td>
</tr>
<tr>
<td>Emergency ch</td>
<td>0</td>
</tr>
</tbody>
</table>

1CG=cancer group; 2Ch=cholecystectomy
Chemotherapy for our patients has not been used routinely and there is no conclusion for this question. There is no effective adjuvant therapy for GBC, although limited data from 2009 report a survival benefit for adjuvant chemoradiation therapy.\(^{16}\)

The incidence of incidental GBC in this study was 0.69%. The pTis and pT1a-b cancer stage are very good prognostic factors in overall survival for patients with GBC. All patients with pT2-3 incidental GBC should be considered for extended radical resection after cholecystectomy alone.

**SUMMARY**

**SLUČAJNI NALAZ KARCINOMA ŽUČNE KESE U REGIONALNOM KLINIČKOM CENTRU**

**Cilj** ove studije je da se procene karakteristike, TNM stadijum i preživljavanje kod slučajno otkrivenih karcinoma žučne kese kod bolesnika podvrgnutih površinskoj otvorenoj holecistektomiji u regionalnom Kliničkom centru.

**Bolesnici i metode:** Retrospektivno su analizirane sve uzastopne holecistektomije u četvorogodišnjem periodu na hirurškom odeljenju i utvrđivani incidenca, patohistološki stadijum i preživljavanje kod incidentalno otkrivenih karcinoma žučne kese. Analizirani su demoografski podaci, hirurški tretman, adjuvantna terapija, informacije o smrti ili zadnjoj kontroli. Pokušali smo da ustavovimo zajedničke činioce i preživljavanje izmedju pTis, 1a-b i pT2-3 grupa bolesnika i bolesnika kod kojih je jedina operacija bila otvorena holecistektomija.

**Rezultati:** karcinom žučne kese je dijagnostikovan kod 21 od 3007 bolesnika kod kojih je učinjena navedena operacija (0.69%). Najveci broj bolesnika je za simptome imao bol u trbuhi, povišenu temperaturu i nalaz holelithaze. Postoperativni pregled je pokazao 20 adenokarcinoma i 1 skvamozni karcinom. 7 slučajeva je bilo stadijum I, isti broj stadijuma II, 5 stadijuma III. Jedan bolesnik je bio u pT4 stadijumu. Prosek starosti je bio 60,6 godina raspon 43-75. 4 bolesnika sa tTs i 3 sa pT1 su mali petogodišnje preživljavanje 100%. Bolesnici sa pT1-2 karcinomom žučne kese su imali petogodišnje preživljavanje od 8,34%. razlika u preživljavanju izmedju dve grupe je bila statistički visoko signifikantna p<0.001.

**Zaključci:** Incidenca slučajno otkrivenog, incidentalno otkrivenih karcinoma žučne kese je bila 0,69%. Pt stadijum se pokazao kao veoma bitan faktor koji je uticao na preživljavanje. Svi slučajevi pT2-3 karcinoma žučne kese treba da budu kandidati za pokušaj radikalne resekcije nakon učinjenih holecistektomija.

**REFERENCES**