Gallbladder Adenomatous Polyps prevalence in Cholecystectomy in Saudi Arabia—cross sectional study

Abstract

Introduction: Gallbladder polyps (GP), especially adenomatous, is quite rare. The prevalence of GP globally is variable, its importance comes from its potential to progress to gallbladder adenocarcinoma.

Methods: Cross sectional study of patients who had laparoscopic cholecystectomy, Feb 2007-Aug 2018 in a community hospital in Saudi Arabia, to evaluate the prevalence of adenomatous gallbladder polyps in the pathology specimens.

Discussions: The prevalence of adenomatous gallbladder polyps is approaching 0.4%, no foci of malignancy were found. It is still below the international prevalence rate.

Conclusion: Low prevalence rate of adenomatous gallbladder polyps compared to international levels may need further studies to explore the reasons behind.

Introduction

In general the prevalence of gallbladder polyp (GP) is increasing, with almost 6.1–8.7%, but over long time follow up it proved that half of them will disappear [1,2].

GP was significantly associated with old age, male gender, visceral obesity, but vegetarian on other hand has no association with GP [3,4]. GP has been reported to have association with colorectal adenoma [5]. Metabolic syndrome [6].

It is not clear that other diseases that have an association with GP will have a higher risk than others in population despite the association, but it seems they are independent from the primary disease, similar to primary sclerosing cholangitis, they benefit from cholecystectomy [7]. But patients with high Child–Pugh have a higher chance of early postoperative complications [8].

Association with stroke have been reported, but need more studies to explore this finding [9].

Some reports of GP being a metastasis from other organs, like renal cell carcinoma [10], or with lymphoma of gallbladder [11], carcinoid tumor [12,13].

Adenomatous polyps first described in literature by da costa et al 1961 [14].

Yang et al suggested a predictive pathway for GP which have higher chance for malignancy potentials, which will support the decision for malignancy [15]. Although Terzioglu et al suggested patients with age above 60, solitary polyps larger than 1 cm, and sessile polyps to be associated with higher risk of cancer, and will require surgical removal [16–21]. Polyps less than 1 cm in size are not considered as a high risk of malignancy, but they may change over time [22,23]. With a necessity regular checkup [24]. It seems that polyps small than 6 mm are not required to have a regular check up [25]. Small lesions below 5 mm most of the time will not be identified in surgical specimen [26]. Unfortunately such clinical pathway was not considered in our facility due to limited expertise and small facility caliber.

Methods

We did cross-sectional study to evaluate how it is prevalent the gallbladder polyps, pathology reports of cholecystectomy between the years Feb 2007-Aug 2018, which were retrieved from 1085 patients from community hospital in the Saudi Arabia. Gross examination and microscopic examination have been assessed, pathology reports have been evaluated and included in the study. Further, cases without or missing report have been excluded from this study, such gallbladder cancer, xanthogranulomatous cholecystitis, cholesterosis, and age below 12 years old, non-adenomatous gallbladder polyps.
Facility capabilities.

Unfortunately, such advance studies are out of the scope of our homolog, are closely related to carcinogenesis [27-31], enhancer of zeste homolog 2, and phosphatase and tension.

Diffusion-weighted imaging is very helpful to differentiate.

Put in consideration that most of GP are cholesterol GP [43].

There is a need for surgical removal of gallbladder (41,42).

Of GP of 1 cm is not strongly diagnostically accurate, and sensitivity and specificity.

Ultrasound can make this goal approachable with acceptable.

It is not easy preoperatively, but utilizing contrast enhanced ultrasound has a high false positive results approaching 86% [39].

Table 1: Distribution of the gallbladder disease finding after cholecystectomy.

<table>
<thead>
<tr>
<th>Type of Disease</th>
<th>No of Patients</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute cholecystitis</td>
<td>96</td>
<td>8.9%</td>
</tr>
<tr>
<td>Acute on chronic</td>
<td>107</td>
<td>9.9%</td>
</tr>
<tr>
<td>Chronic cholecystitis</td>
<td>868</td>
<td>80.3%</td>
</tr>
<tr>
<td>Complicated cholecystitis (gangrenous, perforated, empyema)</td>
<td>10</td>
<td>0.9%</td>
</tr>
<tr>
<td>Gallbladder adenomatous polyps</td>
<td>4</td>
<td>0.4%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>1085</td>
<td>100%</td>
</tr>
</tbody>
</table>

Cases which have been detected incidentally with cholecystectomy as dysplasia of gallbladder, without gross anomalies have not shown a major risk of hidden invasive adenocarcinoma [34]. Large lymphatic channels in in connective tissue of gallbladder at perimuscular zone explains why metastasis is high in T2 tumors of gallbladder cancer [35].

Multiple reports showed association between H pylori and cholecystitis, which raise the concern about its role to other gallbladder pathologies (36,37).

Endoscopic ultrasound should more accuracy than transabdominal ultrasound to differentiate neoplastic from non-neoplastic GP larger than 10 mm, but it is not for lesions less than 10 mm [38]. Put in consideration that transabdominal ultrasound has a high false positive results approaching 86% [39].

Sometimes differentiating gallbladder cancer from GP is not easy preoperatively, but utilizing contrast enhanced ultrasound can make this goal approachable with acceptable sensitivity and specificity [40]. It was considered that size of GP of 1 cm is not strongly diagnostically accurate, and there is a need for surgical removal of gallbladder (41,42).

Put in consideration that most of GP are cholesterol GP [43]. Diffusion-weighted imaging is very helpful to differentiate.

gallbladder adenocarcinoma from adenoma, and predicting histologic grades of gallbladder adenocarcinoma [44].

Computed tomography can help if differentiating different types metastatic adenocarcinoma to gallbladder, but it is not that significant compared to GP [45].

It is considered symptomatic GP is beyond cure, which make too much concern to diagnose and predict early the sequelae of GP [46].

Laparoscopic cholecystectomy is the standard procedure which is a safe procedure, even single port procedure is acceptable for experienced surgeons [47,48], for polyps larger than 10mm, polyps between 5-10mm needs US study every 6 months twice, then it needs tailor according to the risk factors scan will need adjustment, and for 5mm surveillance may be not required [49].

Wang et al., suggested doing polypectomy only, without cholecystectomy by using endolap (endoscopic laparoscopic technique) through experimental laboratory, which was successful and safe [50].

References


41. Wemmacker SZ, van Dijk AH, Raessens JH, van Laarhoven C, Drent JPH, et al. (2018) Polyp size of 1 cm is insufficient to discriminate neoplastic


