The Role of Oesophagogastroduodenoscopy in Avoiding Unnecessary Cholecystectomies in Patients with Gallstones and Upper Abdominal Discomfort

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Abstract

Background and objective: Cholelithiasis is a common condition, 10-20% of the population will develop gallstones, the incidence increases with age. Only about 30% of asymptomatic patients will warrant surgery during their lifetime. Dyspeptic symptoms due to other abdominal conditions such as PUD, IBS, Functional dyspepsia, IBS& GERD are frequently attributed to Gallstones. The current study aimed to assess the role of upper endoscopy in patients with gallstones in avoiding unnecessary cholecystectomies.

Patients and methods: 124 patients were included in Sulaimaniyah city hospitals from October 2015 to February 2017 complaining of upper GIT symptoms and U/S evidence of gallstones and an oesophago-gastroduodenoscopy (OGD) is performed to exclude other possible explanation which may avoid unnecessary operation.

Results: Among 124 patient 99 (79.8%) were females and 25 (20.2%) were male, The mean age of studied patients was 46.4±14.5 years. The OGD findings of patients with Gallstones were normal 63 (50.8%), duodenal ulcer 24 (19.4%), non significant findings 24 (19.4%), reflux esophagitis 10 (8.2%), gastrodudenitis 2 (1.6%) and fungal esophagitis 1 (0.8%). There was 12 (9.6%) patients in whom surgery decision was changed while in 112 (90.4%) the surgery was done.

Conclusion: OGD is a very useful tool in the preoperative evaluation of patient with Gallstones with upper gastrointestinal tract (GIT) symptoms.

KEY WORDS: Gastrointestinal tract, Oesophago-gastroduodenoscopy (OGD), Gallstones.
Introduction:
Gallstone is one of the commonest problems in GE practice. The prevalence is 5-10% mostly among female & middle to elder age groups, rising in many countries including Iraq. In England 70000 & USA > 0.5 million cholecystectomies done each year. Risk factors include; advancing age, multiple pregnancies, obesity, repeated fluctuations in body weight, rapid weight loss >1.5 kg/week, high dose estrogens & Cholestyramine/fibrates. Protective factors may include moderate exercise, coffee & moderate alcohol consumption. Presentations of gallstones include asymptomatic & symptomatic ones which include: A. Biliary colic: a Moderate - Severe epigastric or right hypochondriac pain that last for 15 minutes to 6 hours or less than 24 hours, not associated with fever & can be associated with nausea / vomiting, usually resolve spontaneously or by medications. B. Symptomatic complications as acute pancreatitis, obstructive jaundice, cholecystitis) 0.2 -0.8% / annum, 0.3 - 1.2% if the stones are initially asymptomatic, 0.7 -2% / annum if the stones are initially symptomatic, Other rare symptomatic complications include Acute cholangitis, Mucocele of gallbladder, Empyema of gallbladder, Gangrenous gallbladder, Biliary peritonitis, Porcelain gallbladder, Gallbladder cancer. Management include 1. Non-surgical: Oral dissolution with bile acids successfully dissolved gallstones in an extremely limited patient population, especially in patients with symptomatic radiolucent gallstones < 15 mm within a functioning gallbladder.
Laparoscopic cholecystectomy(LC): results in a shorter hospital stay, speedier recovery, reduction of postoperative pain & better cosmetic results compared with open surgery. Indications for cholecystectomy for asymptomatic Gallstones may include: 1. Age: children & young adults. 2. Very large stones >3 cm. 3. Thick walled gallbladder >0.3 cm. 4. Porcelain gallbladder 5. Large sessile polyps. 6. Race related like native American Indians.

Patients and methods:
A prospective study in Sulaimanyah governmental hospitals (KCGH, Shar teaching hospital & Surgical teaching hospital). A total number of 124 patients with U/S diagnosed GSs & upper GIT symptoms were referred to do OGD. A full history & clinical exam carried out with emphasis on upper GIT & Biliary symptoms. Patients were followed out to see in how many patients the decision to do operation was changed in the short term follow-up of our study period. Inclusion criteria: any adult with U/S evidence of GSs & upper GIT symptoms.
Exclusion criteria: any case of complicated Gallstone including common bile duct stones, acute cholecystitis, pancreatitis, cholangitis.
**Results:**
The mean age of studied patients was 46.4±14.5 years, 29.9% of them were 40-49 years, 21% of them ≥60 years, 17.7% ,30-39 years, 17.7% ,50-59 years & 13.7% ,>10 years. Females were more than males with female to male ratio as 3.96:1 (Figure 1).

The presenting symptoms: Biliary colic (72.6%), Epigastric pain (22.6%) or other Dyspeptic symptoms (3.2%) & Heartburn (1.6%) (Figure 2).

The OGD findings: Normal 63 (50.8%) Abnormal findings; 49.2% as below: Duodenal ulcer 24 (19.4%) Non- significant findings 24(19.4%) Reflux esophagitis 10 (8.2%) Gastrodudenitis 2 (1.6%) Fungal esophagitis 1 (0.8%) (Figure 3).

The change in decision for surgery was observed among 9.7% of patients with Gallstones after OGD. In 90.3% there had been no change in decision (Figure 4).

There was a significant association (P= 0.02) between patients detected with duodenal ulcer by OGD & decision change (Table 1).

There was a significant association (P= 0.002) between Gallstone patients with abnormal OGD findings & decision change (Figure 5).

Figure 1: Age distribution of patients with Gallstones.

Figure 2: The presenting symptoms of patients with Gallstones.

Figure 3: OGD findings of patients with Gallstones.

Figure 4: Distribution of age according to decision change.

Figure 5: Distribution of OGD outcome according to decision change.

![Figure 1: Age distribution of patients with Gallstones.](image-url)
Figure 2:

Figure 3:

Figure 4:
Table 1: Distribution of OGD* findings of patients with Gallstones according to decision change.

<table>
<thead>
<tr>
<th>Variable</th>
<th>No Surgery</th>
<th>Surgery</th>
<th>( \chi^2 )</th>
<th>P value</th>
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<tr>
<td></td>
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<td>%</td>
<td>No.</td>
<td>%</td>
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<td>No significant findings</td>
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<td>33.3</td>
<td>20</td>
<td>17.9</td>
</tr>
<tr>
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<td>8.3</td>
<td>9</td>
<td>8.0</td>
</tr>
<tr>
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<td>8.3</td>
<td>1</td>
<td>0.9</td>
</tr>
<tr>
<td>Fungal esophagitis</td>
<td>0</td>
<td>-</td>
<td>1</td>
<td>0.9</td>
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</table>

* OGD: Oesophago-gastroduodenoscopy
Discussion:

Our patients were 124 in number, female 99 (79.8%) , 25 (20.2%) and a female to male ratio of 3.96/1 .similar prevalence observed in a study carried out in India. 28-33 In our study the OGD findings of patients with upper GIT symptoms and Gallstone were normal 63 (50.8%), duodenal ulcer 24 (19.4%), non-significant findings 24(19.4%), reflux esophagitis 10 (8.2%), gastroduodenitis 2 (1.6%) and fungal esophagitis 1 (0.8%). The results were near to results of a study carried out by Thybusch et al in Germany, which showed 50% of patients had pathological findings on OGD examination. 34 Another study in Germany recommend that OGD must be done before an elective cholecystectomy &showed that out of 960 patients for elective cholecystectomy, 589 underwent gastroscopy 56% had normal gastroscopy. 35

In our study the change in decision for surgery was observed among 9.7% of patients with upper GIT symptoms and Gallstones after OGD while 90.3% of them had no change in decision &underwent operation.The results of OGD findings changed decision in the management plan in 8.3% and 11.7% of patients in previously mentioned study by Thybusch et al. and Rassek et al., respectively. 34, 35 A study in Poland showed that pathological findings were identified in 1187(42%) patients & the surgery was delayed for patients with ulcers until they finished their medical treatment , sixteen patients had complete resolution of symptoms after medical treatment therefore cholecystectomy was not performed. 36 In a study done in Sudan included 108 patients with gallstones & OGD was done revealed different pathological findings in 61 (56%) , Cholecystectomy was done for 82 (76%) & 26 were treated conservatively. 37 A study in India showed that in 89 patients the management plan had to be changed in 7.9% of patients based on the upper GI endoscopy findings (P value <0.001). 38 In a meta-analysis of 12 cohort studies a total of 6317 patients with cholelithiasis underwent OGD & in 36.3% abnormality was found in OGD but only 3.8% of patient surgery was avoided.39 Another study by Yavorski et al., recommend that patients who present with cholelithiasis &atypical abdominal pain undergo preoperative OGD, as they found that at least 9 per cent of the patients in their study had significant findings that altered their management. 40 In a study in India in 2016 , 216 patients with Gallstone underwent OGD, showed 100% who underwent LC, had relief of symptoms in patients with normal OGD finding while those with significant OGD findings either not went through surgery in 10(4.6%) or when surgery was done they had more gradual relief of symptoms in 6 months follow-up. 41 A study in England suggested that OGD should be considered as a routine investigation before LC especially in those, who present with overlapping upper GI symptoms. 42

Conclusions:

1.Gallstones is frequently silent & upper GIT symptoms can be attributed to other pathologies in upper GIT.

2. OGD is a very useful tool which can be used in every case with Gallstone & upper GIT complains especially those with atypical symptoms.

3. OGD before elective cholecystectomy can help avoid unnecessary surgeries.

4. Biliary colic was the most important symptom that predicted negative OGDs & led to the decision of proceeding to surgery, so every effort should be done to take a good history of typical biliary colic in those patients.
**Recommendations:**
1. We recommend to evaluate patients with Gallstones very carefully to avoid doing un-necessary LC.

2. We highly recommend OGD as an appropriate evaluation of patients planned for elective cholecystectomies.

**References:**


