

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 patients 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%), gastroduodenitis 2 (1.6%) and fungal esophagitis 1 (0.8%), There were 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. ¹⁻³ The prevalence is 5-10% mostly among female & middle to elder age groups ^{4,7}, rising in many countries including Iraq. ⁸. In England 70000 & USA > 0.5 million cholecystectomies done each year. ⁹ 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. ¹⁰⁻¹² Protective factors may include moderate exercise, coffee & moderate alcohol consumption. ¹³⁻¹⁵ 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. ¹⁶⁻¹⁸ 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. ^{11, 19-21}

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. ^{12, 22-24}

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. ^{13, 25-27}

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%) Gastroduodenitis 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.

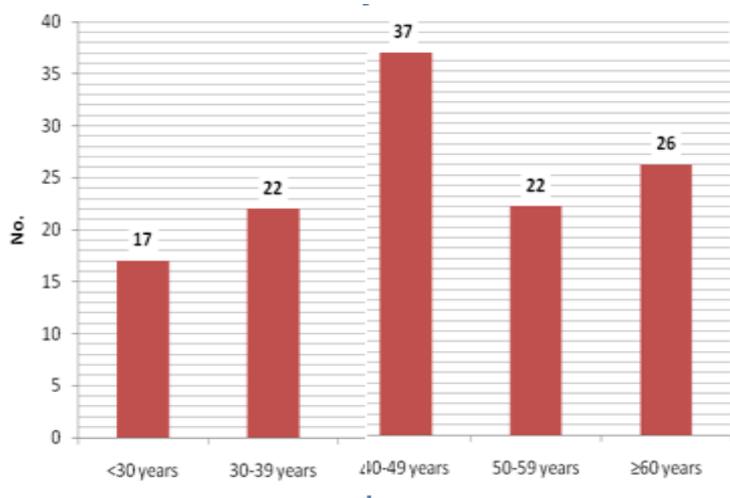


Figure 1:

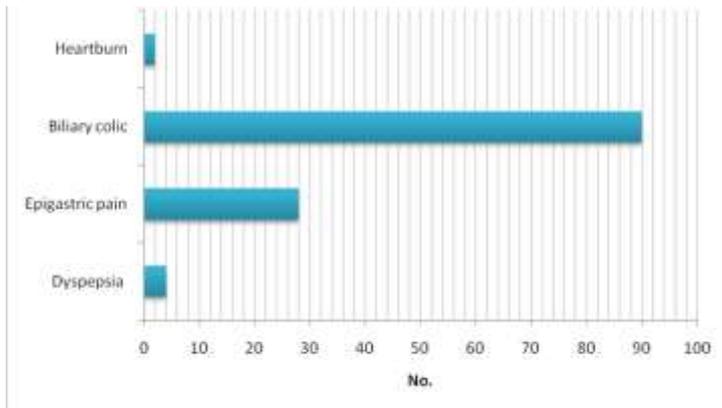


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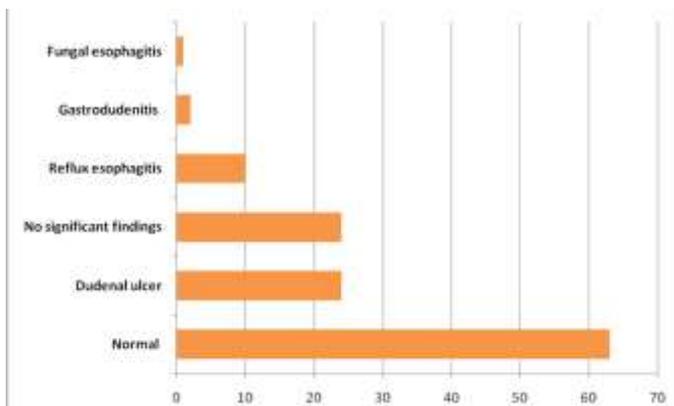


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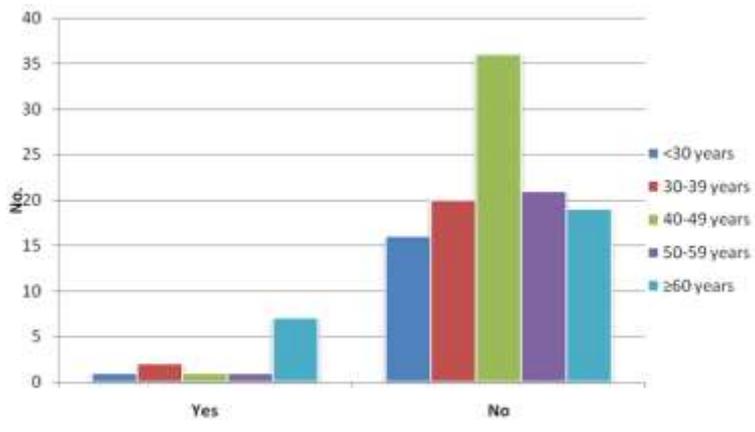


Figure 4:

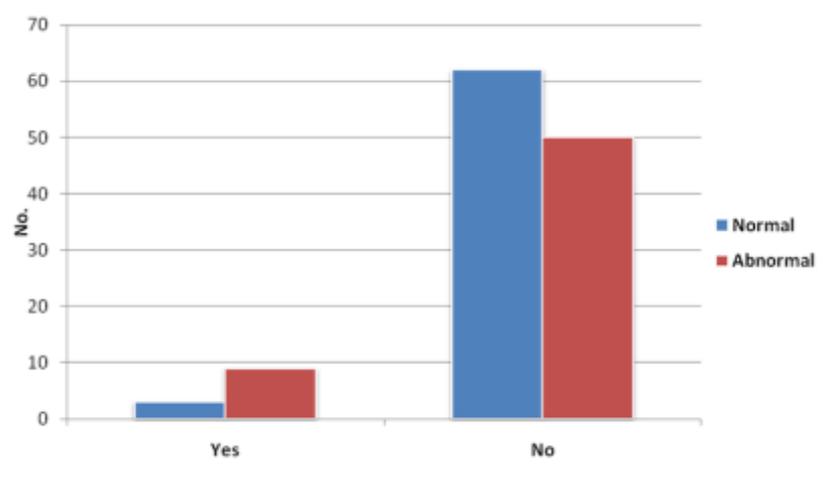


Figure 5:

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

Variable	No Surgery		Surgery		χ^2 13.3	P value 0.02
	No.	%	No.	%		
Normal	1	8.3	62	55.4		
Duodenal Ulcer	5	41.7	19	17.0		
No significant findings	4	33.3	20	17.9		
Reflux esophagitis	1	8.3	9	8.0		
Gastroduodenitis	1	8.3	1	0.9		
Fungal esophagitis	0	-	1	0.9		

* 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. ³⁴Another 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.

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