Are Indications For Esophago Gastro Duodenoscopy Properly Followed?

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Abstract

Background: Symptoms related to the upper gastro-intestinal tract are very common. Attribution of these symptoms to upper G. I. T.
diseases are usually done on clinical bases, which could be confirmed by Esophago Gastro Duodenoscopy (EGD). The use of such tools might increase the diagnosis accuracy for such complaints. The indications for upper G I endoscopy might decrease the negative results of endoscopies.
Objective: To follow strict indications for Esophago Gastro Duodenoscopy in order to decrease the negative endoscopy results.
Methods: One thousand eight hundred and ninety cases were subjected to EGD from Feb. 1999 to Feb 2009 at Alkindy Teaching Hospital and Abd-Al-Majeed private hospital in Baghdad, Iraq. A special endoscopy unit form was prepared containing data from patients, clinical complaint, indications for endoscopy request, and the endoscopic diagnosis, biopsies were taken when indicated and subjected to histopathological examination. All these data were studied and analyzed.
Results: Out of the total 1890 patients there were 1114 males and 776 females with male to female ratio 3/2, the most common age group ranged from 21 to 50 years with a mean age of 32 years. Upper abdominal pain was the most common indication (30%), upper GI bleeding (27.94%), duodenal ulcer follow up (25.5%). The diagnosis of chronic DU was established in (40.21%) of cases, normal endoscopic results were found in (34.6%), duodenitis and gastritis in (15.2%).
Conclusion: The high number of normal gastrointestinal endoscopies necessitates the need to follow strict indications before subjecting the patients for endoscopy.
Keywords: Indications, Gastrointestinal, Endoscopy.

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Introduction

Upper GI endoscopy also called esophago-gastroduodenoscopy (EGD) is a visual examination of the upper intestinal tract using a lighted, flexible fibreoptic or video endoscope. The upper GI tract starts with the mouth and continues with the esophagus, the J- shaped stomach and ends in the duodenum [1, 2].

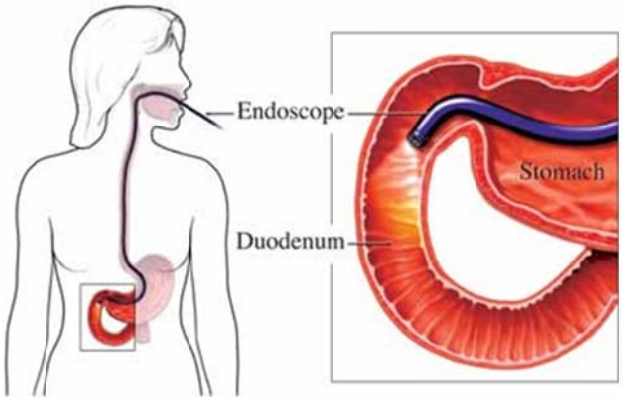

Diagram 1, showing the upper GIT and the pathway of the endoscope.

Over the last 50 years endoscopy has become the most diagnostic and therapeutic tool. In the early 20th century the rigid endoscopes were in use, in 1958 the first flexible, fibreoptic gastroscope was introduced by Larry Curtiss, a graduate student of physics, and Basil Hirschowitz, a trainee in gastroenterology. With further evolution, many devices were introduced to allow creation of a digital electronic image, permitting endoscopic image to be processed by a computer and transmitted to a television screen(videoscope)[3].
Indications for upper GI endoscopy include:

Dysphagia, esophageal cancer, gastro esophageal reflux disease (GERD), Achalesia, Caustic injury. Dyspepsia, upper abdominal pain, gastric ulcers, duodenal ulcers, upper GI bleeding, mass lesions, surveillance for pre malignant lesions, gastric polyp, Atrophic gastritis, adeno carcinoma recurrence after partial gastrectomy[4].

Patients are asked about relevant medical illnesses, previous endoscopies, and previous gastric surgery, bleeding tendencies and drug allergies. Most patients should be fasting over midnight and no fluid intake for at least 4 hours before endoscopy [5].

The patient receives local anesthesia for the posterior pharynx, intravenous sedation if anxiety is present in order to reduce discomfort and diminish motility and secretions [6, 7,].

The endoscope is passed per orally either by the blind method that is to pass the tip of the endoscope through the bite guard and when reaching 18 cm the patient is asked to swallow, or by direct vision technique were the instrument is passed under direct vision and when reaching the closed cricopharengeal sphincter the patient is asked to swallow and the instrument is passed into the esophagus, stomach and duodenum, any accessory instruments can be passed through a side way channel for therapeutic purposes or biopsies. [8, 9, 10].

Esophagogastreoduodenoscopy is generally a safe procedure even during pregnancy or after upper GI surgery [11, 12]. Cardiopulmonary complications, infection, bleeding and perforation occur very rarely [13]. The aim of this study is to find out whether strict indications for upper GI endoscopy are being followed or not.

Methods

A prospective interventional study was done on 1890 case that were included in this study; the endoscopy was carried out in both Alkindy teaching hospital and Abd Almajeed private hospital during the period from Feb. 1999 to Feb. 2009, the procedure was performed by the surgeons involved in the study and a histopathologist who studied the biopsies taken during endoscopy. Patients were referred from outpatient department, emergency departments and inpatient wards. The instrument used was Olympus G/F P10 model connected to CLE 10 light source, with a videoscope used since 2004. Biodata of all patients were recorded, full history about associated illnesses, previous endoscopy, bleeding tendencies and drug allergies were taken, and the indications for which they underwent endoscopy were recorded.

All patients were fasting overnight, they received local lidocaine spray for pharyngeal anesthesia; some were given 10 mg. intravenous diazepam sedation to control anxiety. The procedure was performed by both the blind method and direct vision method; the endoscope was passed into the esophagus, stomach and duodenum. The average time for the procedure was 15 minutes unless biopsies were indicated which added another 5 minutes to the procedure, the endoscopic diagnoses were recorded, and all data analyzed.

Results

Out of 1890 cases 1114 were males and 776 were females with a ratio of 3/2. Age ranged from 10 to 90 years, the most common age group ranged from 21 to 50years with mean age of 32 years. Table one shows the age group distribution.

TABLE 1: AGE GROUPS DISTRIBUTION.

AGE GROUP	O. OF CASES	% OF TOTAL
10-20	**144**	**7.6%**
21-30	**440**	**23.28%**
31 -40	**442**	**23,38%**
41-50	**420**	**22.2%**
51-60	**264**	**13.9%**
61-70	**136**	**7.2%**
71-80	**22**	**1.16%**
81-90	**22**	**1,16%**
	1890	**100%**

The indications for upper GI endoscopy in referred patients showed that upper abdominal pain was the most common indication and represented 30% of the cases, upper GI bleeding 27.94%, duodenal ulcer fallow up 25.5%, dyspepsia 7.3%, vomiting 4% as shown in table 2.

TABLE 2: INDICATIONS FOR UPPER GI ENDOSCOPY.

INDICATION	NO. OF CASES	% OF TOTAL
UPPER ABDOMINAL PAIN	568	30%
UPPER GI BLEEDING	528	27.94%
DUODENAL ULCER	482	25.5%
DYSPEPSIA	183	7.3%
VOMITTING	76	4%
HYPER ACIDITY	42	2.2%
DYSPHAGIA	18	0.95%
ABD. MASS	14	0.74%
GASTRIC ULCER	6	0.31%
ASCITIES	6	0.31%
WEIGHT LOSS	6	0.31%
HICOUGH	4	0.2%
ANAEMIA	4	0.2%
	1890	100%

Regarding the endoscopic diagnoses. Chronic duodenal ulcer was the most common endoscopic diagnosis in our study as it was found in 760 patients (40.21%), normal endoscopic findings were found in 654 patients (34.6%), gastritis and duodenitis in 280 patients (15.2%) , reflux esophagitis in 46patients (2.43%), while gastric cancer was found only in 36 patients (1.9%) as shown in table 3

TABLE 3: Endoscopic Diagnoses

ENDOSCOPIC DIAGNOSIS	NO. OF CASES	% OF TOTAL
CHRONIC D.U.	760	40.21%
NORMAL	654	34.6%
GASTRITIS AND DUODENITIS	286	15.2%
REFLUX ESOPHSGITIS	46	2.43%
GASTRIC ULCER	42	2.22%
GASTRIC CANCER	36	1.9%
PYLORIC STENOSIS	22	1.16%
HIATUS HERNIA	18	0.93%
STOMAL ULCER	12	0.63%
ESOPHAGEAL VARICES	10	0.52%
MELLERY WEISS SYND.	4	0.2%
	1890	100%

The endoscopic diagnoses of 568 patients with upper abdominal pain was as follows, normal endoscopic findings in 258 patients (45.42%), duodenal ulcer was found in 178 patients (31.33%), gastritis and duodenitis in 96 patients (16.9%) as shown in table 4.

Table 4: ENDOSCOPIC DIAGNOSES OF 568 PATIENTS WITH UPPER ABDOMINAL PAIN.

ENDOSCOPIC DIAGNOSES	NO.OF PATIENTS	% OF TOTAL
NORMAL	258	45.42%
DUODENAL ULCER	178	31.33%
GASTRITIS AND DUODENITIS	96	16.9%
REFLUX ESOPHAGITIS	12	2.1%
CA, STOMACH	12	2.1%
GASTRIC ULCER	10	1.76%
HIATUS HERNEA	2	0.35%

Regarding upper GI bleeding 528 patients were examined and acute gastric erosions was found in 246 patients (46.65%), duodenal ulcer in 208 patients(39.45%), carcinoma of the stomach in 26 patients (4.9%) as shown in table 5.

TABLE 5 : Endoscopic diagnoses for patients with upper GI bleeding.

ENDOSCOPIC DIAGNOSES	NO. OF CASES	% OF TOTAL
GASTRIC ERROSIONS	246	46.65%
DUODENAL ULCER	208	39.45%
CA STOMACH	26	4.9%
STOMAL ULCER	12	2.27%
GASTRIC ULCER	12	2.27%
ESOPHAGEAL VARIECES	10	1.9%
REFLUX ESOPHAGITIS	10	1.9%
MELLERY WIESS SYND.	4	O.75%
	528	100%

Cases with normal Endoscopic findings are shown in table 6 showing the indication for EGD and their number and percentage.

Table 6: Case indications for endoscopy with normal endoscopic findings.

INDICATION	No. of cases	Percent of total
UPPER ABDOMINAL PAIN	258	39.44%
D.U. FOLLOW UP	230	35.16%
DYSPEPSIA	98	15%
VOMITTING	50	7.64%
ABDOMINAL MASS	9	1.37%
DYSPHAGIA	2	0.3%
ASCITIS	3	O.5%
ANAEMIA	2	0.3%
WEIGHT LOSS	2	0.3%
TOTAL	654	100%

Discussion:

A mean age of 32 years was found in our study which is lower than 47.7 and 37.8 years in two different studies in Africa (14-15). Age is an important criterion while screening for cancer. Among western population; the incidence of gastric cancer is very low for patients below the age of 45 years (16). Which correlates with our study, as none of our Patients, with cancer were below the age of 45. The commonest indication for upper GI endoscopy in this study was peptic ulcer disease whether referred as upper abdominal pain, bleeding or for fallow up of duodenal ulcer as it contributes to 45.6% of the total, compared to 59.1%in Africa(17). Gastric cancer was found only

in 1.9% indicating a low incidence of malignancy in our study, compared to 2.76% in India (16).

Upper GI bleeding is a common medical condition that results in high morbidity, mortality and medical care cost; endoscopy is highly sensitive and specific for locating and identifying bleeding lesions in upper GI tract (18).Twenty eight percent of our patients had upper GI bleeding and the diagnoses was accurate in all cases, which is similar to the results of Saudi Arabia (18). Normal endoscopic findings were seen in 34.6% of cases which seems to be high reflecting the over use of upper GI endoscopy with the absence of strict guidelines, though it is less than Multan study which gives a number of negative endoscopies as high as 56% (19). Clinical diagnoses is unreliable in diagnosing the under lying cause of upper GI symptoms (20), so the role of an empirical therapy before performing endoscopy has been highlighted by earlier workers (21), in order to reduce the number of negative endoscopies, although we don't agree with that hypothesis as putting strict indications might decrease the number of negative endoscopies.

Conclusion:

Peptic ulcer disease is the most common indication for upper GI endoscopy in our study; the high rate of negative endoscopy with high incidence of GI diseases in our patients necessitates the presence of strict indications for upper GI endoscopy to increase the diagnostic efficacy of endoscopy and decrease the number of negative endoscopies.

References

1. Peter BC, Christopher BW, Practical gastrointestinal endoscopy. 4th Ed. London; Blackwell Science; 1996. P, 51-77.
2. Jacques VD, William RB, Endoscopy of the upper GI tract. N Engl J Med 1999; 341 (23); 1738-1748.
3. James Lindsay, Gastrointestinal endoscopy, Chapter 11, P: 151-66, Short practice of surgery, 25th Ed. 2008.
4. Guido NJ, Tytget P, Upper GI endoscopy, Chap. 138; pg. 144-1176. Yamadas textbook of gastroenterology, 4th ed. 2003.
5. Gerson LB, Gage BF, Owens DK, Triadafilopoulos G, Effect and outcomes of the ASGE guidelines on the periendoscopic management of patients who take anticoagulants. Am J Gastroentrol 2000; 95: 1717.
6. Woloshynowych M, Oakley DA, Saunders BP, Williams CB, Psychological aspects of gastrointestinal endoscopy; a review. Endoscopy 1996; 28: 763.
7. Martin JP, Arlett PA, Holdstock G, Development of a sedation policy for upper GI endoscopy based on an audit of patients, perception of the procedure. Eur J Gastroentrol Hepatol 1996; 8; 355.
8. Silvac MV Jr. The nose: is this the route to improving esophagogastroduodenoscopy? Gastrointest Endosc 1999; 49; 395.
9. Dean R,Dua K, Massey B, *et al,* A comparative study of unsedated transnasal esophagogastroduodenoscopy and conventional EGD . Gastrointest Endosc 1996; 44; 422.
10. Tytgat GNJ, Ignacio JG, Technicalities of endoscopic biopsy. Endoscopy 1995; 27; 683.
11. Cappel MS, Colon VJ, Sidhom OA, A study of eight medical centers of the safety and clinical efficacy of EGD in 38 pregnant females with follow-up of fetal outcome with comparison to control groups. Am J Gastroentrol 1996; 91; 348.
12. Cappel MS, Huh CH, A study of the safety and clinical efficacy of EGD after esophageal, gastric, or duodenal surgery in 60 patients. Am J Gastroentrol 1995; 90; 1268.
13. Haber-Gama A, Waye JD. Complications and hazards of EGD World J Surg 1989; 13; 193.
14. Olakoba AB, Bojuwoye BJ, Olokoba LB, Common indications for upper gastro-intestinal tract endoscopy in ECWA Hospital, Egbe, Nigeria. African Scientist Vol. 7, No 4, Dec 2006, P 165-9.
15. Danbauchi SS, Keshinro IB, Abdu-Gusau K. Fifteen years of upper gastrointestinal endoscopy in Zaria (1978-1993). Afr J Med Med Sci 1999 Mar- Jun, 28(1-2);87-90.
16. Sumathi B, Navaneethan U, Jayanthi V, Appropriateness of indications for diagnostic upper GIendoscopy in India. Singapore Med J 2008; 49 (12) : 970.
17. Samaila AA, Banye S, BuhariS et al. Upper GI endoscopic findings in patients at General hospital, Katsina, Nigeria. Association for the study of the liver in Nigeria annual scientific conference Book of Abstracts Jos, 2006; Abstract No 27.
18. Faiza A Qari, Major causes of Upper GI Bleeding at King Abdul Aziz University Hospital (Jeddah), Kuwait Med J 2001, 33 (2); 127-30.
19. Muhammad I, Zahra N, Muhammad SA. Dyspepsia and Upper GI Endoscopy. Professional Med J Mar 2008; 15(1); 143-7.
20. Thomson AB, Barkun AN, Armstrong D, *et al.* The prevalence of clinically significant endoscopic findings in primary care patients with uninvestigated dyspepsia; the Canadian Adult Dyspepsia Empiric Treatment- Prompt Endoscopy (CADET-PE) study. Aliment Pharmacol Ther 2003; 17; 1841-91.
21. Brown C, Rees WDW. Dyspepsia in general practice. Br Med J 1990; 300; 829-30.

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