Assessment of Gastrointestinal Endoscopy in Al-Salam Teaching Hospital in Mosul City

تقييم نتائج التنظير للجهاز الهضمي في مستشفى السلام التعليمي في مدينة الموصل

***Hanady J. Mahmood/** M.S.C/ Lecturer/ Nursing College/ University Of Mosul

الخلاصة

الخلفية: في ظل الظروف الحاضرة أصبح تنظير الجهاز الهضمي من الممارسات الطبية التقليدية لأكثر من ثلاثين عاما في أعقاب تطوير المناظير المرنة صالحة الاستخدام في وقت مبكر منذ عام ١٩٧٠م.

الهدف: تقييم نتائج التنظير للجهاز الهضمي في مستشفى السلام التعليمي في مدينة الموصل.

المنهجية: عينة الدراسة كانت قصدية من خلال الاشخاص اللذين حولوا الى وحدة التنظير لاضطرابات الجهاز الهضمي للفترة من ٢٠ / ١ / ٢٠١٣ الى ٢٠ / ٣ / ٢٠١٣ في مستشفى السلام التعليمي في مدينة الموصل. تكونت عينة الدراسة من (٦٤) مريض، (٣٢) من الذكور، و (٣٢) من النساء تم تحليل العينة بالاعتماد على الجنس والعمر والموقع والتشخيص الأخير للمنظار الهضمي.

النتائج: اربعة وستون مريضا من الذين لديهم اضطرابات بالجهاز الهضمي. من المشاركين اللذين لديهم استنتاجات إيجابية عن طريق التنظير الهضمي أظهرت (١٨.٨%) التهاب المعدة، (١٢.٥%) التهاب الاثني عشري و (٧.٨%) التهاب المريء، وقرحة المعدة. ربع المشاركين من هذه الدراسة كانت أعمارهم بين (٤٦ – ٥٥) سنة، الأكثرية من المشاركين كانوا من المتزوجين في مراحل التعليم الأولي، ربات منازل (او البيوت) ومن سكنة المدينة. اكثر من ثلثي العينة في هذه الدراسة كانوا يستعملون الأدوية الستيرويدية. والثلث الأخير من العينة كانوا مدخنين.

الاستنتاجات: أظهرت الدراسة نسبة عالية من الاستنتاجات الإيجابية بعد تعرضهم للتنظير الهضمي في مناطق المعدة والمريء.

التوصيات: توصي الدراسة بتوفير أجهزة التنظير في جميع مستشفيات القطر للوصول الى أكبر عدد ممكن من السكان وهكذا يتيح التشخيص المبكر لأمراض الجهاز الهضمي. كما توصي الدراسة بتوفير الرعاية الشاملة للمريض عند خضوعه لإجراءات التنظير والتي تكون في طبيعة الحال اكثر أهمية وتعقيداً من الناحية التقنية، ويتم توفير هذه الرعاية من خلال تدريب الممرضات خصيصاً للتنظير.

المفردات: التنظير،أمراض الجهاز الهضمي.

Abstract

Background: Gastrointestinal (GI) endoscopy has now been part of conventional medical practice for over thirty years following the development of useable flexible fibreoptic endoscopes in the early 1970's.

Aim: The study aim is to assess the gastrointestinal endoscopy outcomes and risk factors associated it'sin Al-Salam Teaching Hospital, Mosul City.

Methodology: The samples purposively collected from the patients who referred for gastrointestinal endoscopies unit in Al-Salam Teaching Hospital in Mosul City for period from (20/1/2013) to (20/3/2013). The study sampled consist of (64) participants, (32) males and (32) females, (28.1%) their ages ranged between (46 – 55) years. The data were arranged for gender, age, locality, and the outcomes of the procedure.

Results: Sixty four gastrointestinal procedure were performed. Of those who had positive endoscopic findings; gastritis (18.8%), duodenitis (12.5%), and esophagitis, gastric ulcer (7.8%).The study also found that highest percentage of the sample were married, primary educational level, housewife, and urban region. Over two third of study patient's habitual status were NSAIDs followed one third of study patients were smoker.

Conclusion: The study showed highest percentage endoscopic finding sited in stomach and esophagus.

Recommendation: The study recommended availability of endoscopic facilities at all hospitals in country and make it accessible to all population and thus enables earlier diagnosis of digestive tract diseases. Providing comprehensive care for the patient when undergoing endoscopic procedures, which are in the nature of the case more important and technically complex and this care is provided through the training of nurses trained specifically for endoscopy.

Key Ward: Endoscopy, Gastrointestinal diseases.

INTRODUCTION:

Gastrointestinal (GI) endoscopy has now been part of conventional medical practice for over thirty years following the development of useable flexible fibreoptic endoscopes in the early 1970's [(1)]. The endoscopy of Gastrointestinal tract is a safe and easily carried out procedure of both high diagnostic and valuable therapeutic

benefits with relatively low incidence of morbidity and low cost. [2] The international literature contains some evidence regarding endoscopic diagnosis performed at the primary care level – for example, in the United States and the United Kingdom, where the majority of procedures were done at the initiative of physicians in the public sector, but not as part of an integrated population-wide program [3,4]. The inappropriate rate is higher in outpatients and in endoscopic units of non-academic hospitals [5, 6]. Endoscopic examination is important is evaluating and managing upper and lower gastrointestinal problems. Digestive disorders are extremely common in the general population [7]. Endoscopy uses a tube and a fiber-optic system (endoscope) for observing the inside of a hollow organ or cavity and consent form is signed for any endoscopic procedure [8]. Esophagogastroduodenoscopy (EGD) affords an excellent view of mucosal surfaces of the esophagus, stomach, and proximal duodenum. While colonoscopy allows examination of the entire colon and rectum and frequently the terminal ileum[9].The goals of high-quality endoscopy – receipt of an appropriately indicated procedure, a correct diagnosis, and appropriate care – should be achieved with minimal risk to the patient and take place in a well – equipped facility staffed by properly trained and competent endoscopists[10]. Standard diagnostic functions include inspection, biopsy, photography, and video recording. Diagnostic observations are made concerning focal benign or malignant lesions, diffuse mucosal changes, luminal obstruction, motility, and extrinsic compression by contiguous structures. Common therapeutic endoscopic procedures include polypectomy, dilation of strictures, stent placement, and removal of foreign bodies, gastrostomy, and treatment of GI bleeding with injection banding, coagulation, sclerotherapy, and endoscopic therapy of intestinal metaplasia [9]. The study aim is to assess the gastrointestinal endoscopy outcomes in Al-Salam Teaching Hospital, Mosul City.

METHODOLOGY

A descriptive study was used to achieve the objectives of the present study for the period of (20/1/2013) to (20/3/2013). A purposive sample consisted of (64) participants, where, (32) males and (32) females with ages ranged between (46 – 55) years. The study was carried out in the endoscopic unit at Al – Salam Teaching Hospital, Mosul city. The subject of the study was consisted from the patients with a wide range of complaints, such as epigastric pain, dyspepsia, indigestion, heartburn, vomiting, hematemesis, dysphagia, and swallowed foreign bodies were accepted for gastrointestinal endoscopy. Informed consents were taken from the patients or their sponsors. The endoscopy was performed as an outpatient procedure. Data are prepared, organized and entered into a computer file; statistical package for the social science (SPSS, version 15) is used for data analysis. Data are analyzed through the application of two approaches. This approach is employed through: Frequency distribution and Percentage.

RESULT:

Table 1: Distribution of the study samples according to demographicdata.

Item		No.	%
Age	6 – 15	2	3.1
	16 – 25	15	23.4
	26 – 35	14	21.9
	36 – 45	12	18.8
	46 – 55	18	28.1
	56 – 65	2	3.1
	66 and above	1	1.6
Mean = 36 SD = 17.75293			
Gender	Male	32	50.0
	Female	32	50.0
Marital Status	Single	17	26.6
	Married	44	68.8
	Widow	3	4.7
	Divorced	0	0
Education Level	Cannot read and write	4	6.2
	Read and write	7	11
	Primary	22	34.3
	Intermediate	14	22
	Secondary	2	3.1
	Institute and above	15	23.4
Occupation	Worker	26	40.6
	Retirement	8	12.5
	Housewife	30	46.9
Address	Urban	57	89.1
	Rural	7	10.9

Table 1 shows mean age of the patients was (36) years with range of (6 - 66) years. Marital-status revealed married (68.8%), single (26.6%) and widow (4.7) respectively. Level of education status revealed cannot read and write (6.2%), read and write (11%), primary (34.3%), Intermediate (22%), Secondary (3.1%) Institute (23.4%). Occupation, worker (40.6%), (12.5%) retired, and housewife (46.9%). Address, urban (89.1%) and rural (10.9).

Table 2: Distribution of the sample according to habitual data

Habitual data	Yes	%	No	%
Smoking	16	25	48	75
Alcoholism	1	1.6	63	98.4
NSAIDs	39	60.9	25	39.1

This table shows that the study sample percentage of habitual data for smoking, alcoholism and NSAIDs (25%), (1.6%) and (60.9%) respectively.

Table 3: Distribution of endoscopic sample according to organ examined sites.

Endoscopic organ site	No.	%
Esophagus	16	25
Stomach	28	43.75
Duodenal	12	18.75
Colon	8	12.5

Table 3 shows the percentage of organs to be examined by endoscopic findings. The highest percentage of patients had stomach disorder (43.75%) while (25%) of the patients had esophagus disorders and duodenal disorders (18.75%).

Table 4: Distribution of sample according to pathology after endoscopic examination.

Outcome endoscopic examination	Yes	%	No	%
Previous bleeding	3	4.7	61	95.3
Previous operating	3	4.7	61	95.3
Gastritis	12	18.8	52	81.3
Gastric ulcer	5	7.8	59	92.2
Angiodysplasia of stomach	1	1.6	63	98.4
Esophagitis	5	7.8	59	92.2
Esophageal varicose	3	4.7	61	95.3
Duodenal ulcer	3	4.7	61	95.3
Duodenitis	8	12.5	56	87.5
Bleeding duodenal ulcer	1	1.6	63	98.4
Mass	2	3.1	62	96.9
Celiac disease	3	4.7	61	95.3
Esophageal erosions,	3	6.2	60	93.7
Esophageal cancer	3	6.2	60	93.7
Gastroduodentitis	3	4.7	61	95.3
Gastroesophageal reflux disease	2	3.1	62	96.9
Carcinoma of stomach	1	3.1	62	96.9
Colon cancer	1	3.1	62	96.9
Rectal cancer	2	6.2	60	93.7

This table shows the highest percentage of endoscopic outcome examination in gastritis (18.8%) followed duodenitis (12.5%) and esophagitis, gastric ulcer (7.8%).

Table 5: Relationship between smoking habit and endoscopy.

Smoking	Sum of Squares	df	Mean Square	F	Sig
Between groups	2.71	3	0.90	5.83	S.
Within Groups	9.28	60	0.15		
Total	12	63			

Table 5 indicates that there is a significant relation between smoking and GIT endoscopy at $P < 0.05$.

Table 6: Relationship between those patients who receive NSAIDS and the GIT endoscopy.

NSAID	Sum of Squares	df	Mean Square	F	Sig
Between groups	1.06	3	0.35	1.507	N.S.
Within Groups	14.16	60	0.236		
Total	15.23	63			

Table 6 indicates that there is no significant relation between NSAIDs and GIT endoscopy at $P < 0.05$.

DISCUSSION:

Mosul is a second large city in Iraq with varying environmental regions and the inhabitants belong to wide ethnic diversities with different cultures and social habits. The population is experiencing rapid modernization and extra stress imposed by desertification, displacement, tribal conflicts and war. In this study males and female were equal (32%). In this study The mean age was (36) year with (28.1%) of the patients being under 60 year; similar or close results were reported from Turkey, Saudi Arabia, and Pakistan where the majority of patients were under (60) year [11, 12]. In Western studies the mean age was >60 year and those above (60) year made (50 – 70%) of the total[13, 14].Inflammation of the fore gut was the commonest pathology

found (39.06%) i.e.gastritis (18.8%), duodenitis (12.5%) and esophagitis (7.8%). The prevalence of other disease (26.6%%) and gastric ulcer (7.8%) may add to this. In a similar society chronic gastritis was found in (25.8%) of cases in Kenya[15] and (36.9%) in Sudan[16] .In a study that included patients from four countries on three continents (Japan, China, Tanzania, and the Dominican Republic), Aoki *et al.* reported gastritis prevalence rates ranging from (23.5%) to (96.5%)[17]. The prevalence of esophagitis found in our study is quite similar to that reported by Du in China[18], who found a rate of (20.8%) among (2231) patients. This in turn was higher than the (15.8%) also reported in China by Tseng[19] and the (12%) reported by Kim in a major study conducted in South Korea with (25,536) subjects[20] and by Chen in Taiwan (12%)[21].A Swedish endoscopy study of peptic ulcer[22] in a random sample of (1001) persons from two communities found a relatively low prevalence (4.1%). However, other non–population-level studies involving series of patients spontaneously presenting in hospitals found higher prevalence's: (7%) in Finland [23], (15%) in the United States (Alaska)[24], (17.2%) in China[25]and (31.8%) in Poland[26].Possible underlying causes may be ingestion of hot meals, Helicobacter pylori infection, consumption of alcohol and smoking and non-steroidal anti-inflammatory drugs. Risk factors associated with diseases of the gastrointestinal tract in this study generally coincide with those reported by other authors. A selection of published articles on studies in Europe, Asia, and the Americas shows that *H. pylori* infection is the main predictor of peptic ulcer disease, followed by smoking[25], although some authors do not consider the latter an independent predictor but rather a synergistic co-factor with *H. pylori* infection[27]. Other risk factors associated with peptic ulcer found in the literature are: male sex, advanced age[18], prior history of ulcer, use of aspirin or other NSAIDs[28] and being divorced. Alcohol consumption is reported as a risk factor in some studies[18] and as a protective factor in others. Drugs such as aspirin and other NSAIDs are considered predictors of significant risk for gastric ulcer[25], but this study was not able to show that association. Without a doubt, *H. pylori* infection is the main predictor of gastritis[29], just as hiatal hernia, male sex, smoking, drinking alcohol, and overweight–obesity are for esophagitis[21].

CONCLUSION:

One quarter of the study sample their age ranging from (46 – 55) years. While, height percentage in married status, primary educational level, housewives, and urban residence. Over two third of studies sample taking NSAIDs followed one third of studies patient's smoker. The study showed high percentage of endoscopic finding site in stomach and colon. Highest percentage with outcome endoscopic examination in other disease followed gastritis and duodenitis.

RECOMMENDATION:

1. Availability of endoscopic facilities at all hospitals in country and make it accessible to all population and thus enables earlier diagnosis of digestive tract diseases.
2. Expansion of the service with endoscopic, more relevant accessories and training supplement diagnosis and facilitate therapeutic measures.
3. Standard guidelines should be utilized to improve or maintain standards of endoscopic services in ensuring cost-benefit and quality assurance.
4. Providing comprehensive care for the patient when undergoing endoscopic procedures, which are in the nature of the case more important and technically

complex and this care is provided through the training of nurses trained specifically for endoscopy.

REFERENCES

1. Jonathan G. :Complications of Gastrointestinal Endoscopy, BSG Guidelines in Gastroenterology 2006; 1 – 2.
2. Makkie A.K. AL-Youzbaki.: Prevalence of upper gastro intestinal endoscopy findings in endoscopy referred patients at Mosul city, a ten years (retrospective study), Annals of the College of Medicine, Mosul, 2010; 36 (1 & 2): 8 – 11.
3. Charles RJ, Cooper GS, Wong RC, Sivak MV Jr, Chak A. Effectiveness of open-access endoscopy in routine primary-care practice. GastrointestEndosc. 2003 Feb; 57(2): 18 – 36.
4. Hernández Gómez LC. Presencia de la mujer en la SaludPúblicaCubana [Internet]. Rev Cub SaludPública. 2009 Mar [cited 2011 Jan 16] ; 35(1).
5. Minoli G, Meucci G, Bortoli A, Garripoli A, Gullotta R, Leo P‹Pera A, Prada A, Rocca F, Zambelli A. The ASGE guidelines for the appropriate use of colonoscopy in an open access system.GastrointestEndosc 2000; 52: 39 – 44.
6. Grassini M, Verna C, Niola P, Navino M, Battaglia E, Bassotti G. Appropriateness of colonoscopy: diagnostic yield and safety in guidelines. World J Gastroenterol 2007; 13: 1816-1819
7. Ghazzawi I, Oweis S, Ajlouni Y.: Upper gastrointestinal endoscopy in Jordanian field hospital in Afghanistan, JRMS, Dec. 2004; 11(2): 62 – 64.
8. Linda S. Williams, Paula D. Hopper: Understanding Medical Surgical Nursing, Second Edition, United States of American, 2010; p.p.: 482 – 483.
9. American Society for Gastrointestinal Endoscopy. Appropriate use of GI endoscopy, gastrointestinal endoscopy. 2012; Volume 75 (6): 1127 – 1131.
10. Faigel D., Pike I., Baron T., Quality indicators for gastrointestinal endoscopic procedures: an introduction. GastrointestEndosc. 2006;63: S3 – S9.
11. Sezgln O, Altintas E, Tombak A. Effects of seasonal variation on acute upper gastrointestinal bleeding and its etiology. The Turkish Journal of Gastroenterology 2007; 18(3): 172-176.
12. Khurram M, Khaar HT, Hasan Z. A 12 years audit of upper gastrointestinal endoscopic procedures. Journal of the College of Physicians and Surgeons-Pakistan, 2003; 13(6): 321 – 324.
13. Konstantinos C. T, Konstantinos P. M., George J. T., Anthie G. G., Georgios N. K., Vassilik N. N.: Acute upper Gastrointestinal bleeding in patients on long-term oral anticoagulant therapy. World J Gastroenterol, 2005; 11(9): 1365 – 1368.
14. Van Leerdam M.E.: Acute upper gastrointestinal bleeding between 1993/1994 and 2000. Am J Gastroenterol, 2003; 98: 1494 – 1499.
15. Lodenyo H, Rana F, Mutuma G.Z,; Patterns of upper gastrointestinal diseases based on endoscopy in the period 1998-2001. Afr J Health Sci 2005; 12(1-2): 49 – 54.
16. Hussein Y. Adam and El Bushra A. Doumi: Upper Gastrointestinal Endoscopy in El Obeid, Western Sudan: Analysis of the First 1150 Cases, Sudan JMS; June 2008; 3(2): 91 – 95.
17. Aoki K, Kihaile P.E, Wenyuan Z, Xianghang Z, Castro M, Disla M, Comparison of Prevalence of Chronic Atrophic Gastritis in Japan, China, Tanzania, and the Dominican Republic. Ann Epidemiol. 2005 Sep;15(8):598–606.

18. Du J, Liu J, Zhang H, Yu CH, Li YM. Risk factors for gastro esophageal reflux disease, reflux esophagitis and non-erosive reflux disease among Chinese patients undergoing upper gastrointestinal endoscopic examination. World J Gastroenterol. 2007 Dec 7; 13(45): 6009 – 15.
19. Tseng PH, Lee YC, Chiu HM, Huang SP, Liao WC, Chen CC;Prevalence and Clinical Characteristics of Barrett's Esophagus in a Chinese General Population. J ClinGastroenterol. 2008 Nov–Dec;42(10):1074–9.
20. Kim N, Lee SW, Cho SI, Park CG, Yang HC, Kim HS,; The prevalence of and risk factors for erosive oesophagitis and non-erosive reflux disease: a nationwide multicentre prospective study in Korea. Aliment Pharmacol Ther. 2008 Jan; 15;27(2):173–85.
21. Chen TS, Chang FY. The prevalence and risk factors of reflux esophagitis among adult Chinese population in Taiwan. J ClinGastroenterol. 2007 Oct;41(9):819–22.
22. Aro P, Storskrubb T, Ronkainen J, Bolling-Sternevald E, Engstrand L, Vieth M; Peptic Ulcer Disease in a General Adult Population: the Kalixanda Study: A Random Population-based Study. Am J Epidemiol. 2006 Jun 1;163(11):1025–34.
23. Voutilainen M, Mäntynen T, Färkkilä M, Juhola M, Sipponen P. Impact of Non-Steroidal Anti -Inflammatory Drug and Aspirin Use on the Prevalence of Dyspepsia and Uncomplicated Peptic Ulcer Disease. Scand J Gastroenterol. 2001 Aug; 36(8):817–21.
24. Sacco F, Bruce MG, McMahon BJ, Bruden D. A prospective evaluation of 200 upper endoscopies performed in Alaska Native persons. Int J Circumpolar Health. 2007 Apr;66(2):144–52.
25. Li Z, Zou D, Ma X, Chen J, Shi X, Gong Y,; Epidemiology of Peptic Ulcer Disease: Endoscopic Results of the Systematic Investigation of Gastrointestinal Disease in China. Am J Gastroenterol. 2010 Dec; 105(12): 2570–7.
26. Konturek SJ, Bielański W, Płonka M, Pawlik T,Pepera J, Konturek PC,; Helicobacter pylori, non-steroidal anti-inflammatory drugs and smoking in risk pattern of gastroduodenal ulcers.Scand J Gastroenterol. 2003 Sep; 38(9):923–30.
27. Moshkowitz M, Brill S, Konikoff FM, AverbuchM, Arber N, Halpern Z. Additive deleterious effect of smoking on gastroduodenal pathology and clinical course in Helicobacter pylori-positive dyspeptic patients. Isr Med Assoc J. 2000 Dec;2(12):892–5.
28. Yamada M, Wong FL, Fujiwara S, Tatsukawa Y, Suzuki G. Smoking and alcohol habits as risk factors for benign digestive diseases in a Japanese population: the radiation effects research foundation adult health study. Digestion. 2005; 71(4): 231 – 7.
29. Weck MN, Brenner H. Association of Helicobacter pylori infection with chronic atrophic gastritis: Meta-analyses according to type of disease definition. Int J Cancer. 2008 Aug 15; 123(4): 874 – 81.