Research Paper **Medical Science**

Endoscopic Findings In Dyspeptic Patients And Their Relation To Risk Factors

Dr. Bushra Mohammed Ali	Ass. Prof. Family & Community Medicine Department/ School of Medicine/ Faculty of Medical Sciences /University of Sulaimani/Iraq
Dr. Kawa Hussein Ameen	Internal Medicine Department/School of Medicine/ Faculty of Medical Sciences/University of Sulaimani/Iraq
Dr. Fattah Hama Raheem Hawrami	Family & Community Medicine Department/ School of Medicine/ Faculty of Medical Sciences /University of Sulaimani/Iraq
Dr. Karokh Hassan Salih	Pathology &Forensic Pathology Department/School of Medicine/ Faculty of Medical Sciences/University of Sulaimani/Iraq
Dr. Enas Wijdan Salah-Aldeen	Kirkuk Health Directory/ Ministry of Health/Iraq

ABSTRACT *Background: dyspepsia is relatively a common clinical condition encountered by primary care physicians with various diagnosis and it's the reason for most referrals for oesophagogastroduodenoscopy (OGD) because endoscopy is essential in classification of patient's condition as organic or functional dyspepsia.*

Objectives: 1. To determine clinically significant endoscopic lesions in dyspeptic patients & most common endoscopic finding , & whether socio-demographic & clinical characteristics can distinguish between patients with significant gastroduodenal pathology and those with non-ulcer dyspepsia. 2. To identify risk factors association with the presence of endoscopic lesions &the distribution of patients according to their symptoms.

Method: a cross-sectional study included 250 dyspeptic patients referred to Kurdistan center for gastroenterology & hepatology(KCGH) in Sulaimani Teaching Hospital/Iraq, for endoscopy from 1st of October 2012 to 17th of March 2013. Close ended questionnaires were used for collecting data from the patients, upper GI endoscopy done for them, data collected& SPSS version 16 was used for data analysis.

Results: in this study 250 dyspeptic patients involved, 54% were females & 46% were males, mean age of patients were 44.70±18.04 years, most frequent symptom was epigastric pain 91.6%, stress was positive in 76.4% of patients, regular alcohol drinker were 4%, current smoker were 18%, the most frequent endoscopic finding was gastritis 32.8% & the mean age among gastritis were 47.17±17.778 years. The association between gender, stress , smoking, age & dysphagia with endoscopic findings were statistically significant, p= 0.019, p= 0.015, p= 0.018, p= 0.0009 & p= 0.018 respectively.

Conclusions: Age of the patients related significantly to endoscopic findings & significant findings related mainly to middle age group. Stress & smoking are important risk factors which significantly related to endoscopic findings. Gastric problems are the major cause for dyspepsia in this locality.

KEYWORDS : Endoscope, dyspepsia, Sulaimani

Introduction

Overview: Dyspepsia is a common complaint, occurring in 20-30% of the general population. It accounts for approximately 5-10% of all visits to general practitioners in England[1]. In the United States, about 25% of people report recurrent epigastric discomfort that occurs at least once a year. At least 10% of these persons seek medical care[2,3].

Dyspepsia is characterized by epigastric discomfort or pain and can be associated with upper abdominal heaviness or fullness, belching or regurgitation, bloating, early satiation, heart burn, food intolerance, nausea, or vomiting. lower bowel function is usually not affected[1]. In approximately 50-60% of patients, no specific cause is identifiable for dyspepsia. This group is labeled as functional or non-ulcer dyspepsia(NUD) which is due to complex interaction of raised visceral afferent sensitivity, delayed gastric emptying or psychological stress. Most of dyspepsia are recurrent and intermittent[4] [5]. The major causes of dyspepsia are peptic ulcer disease, gastro-esophageal reflux disease, malignancy, and functional dyspepsia[6]. Serious causes of dyspepsia. e.g. ; gastric and esophageal carcinomas are rare but must be considered[7].Alarm symptoms for dyspepsia are: chronic gastrointestinal bleeding, progressive unintentional weight loss, dysphagia, persistent vomiting, iron deficiency anemia, epigastric mass & suspicious barium meal.If any of the above features is present, then dyspepsia needs urgent investigation such as upper GI endoscopy[8]. The evaluation and management of dyspepsia constitutes a significant clinical and economic burden[9,10].Since the era of endoscopy began, important information about the prevalence and incidence of upper GI tract disease has been gained in various regions of different countries. Endoscopy of the upper GI tract is easily carried out procedure of high diagnostic, and also a therapeutic value in certain cases. It is not costly, and has remarkable low incidence of morbidity[11,12].

Objectives:
The aim of this study was:
1-To determine whether socio-demographic & clinical characteristics can distinguish patients with significant gastro duodenal pathology from those with non-ulcer dyspepsia.

2-To identify risk factors association with the presence of endoscopic lesions.

3-To identify the distribution of the patients according to their symptoms.

4-To determine the clinically significant endoscopic lesions in dyspeptic patients & most common endoscopic finding in this locality.

Patients and Methods
Study design: The current study was prospective cross-sectional observational study.

Study Setting: This study was conducted in Kurdistan Center for Gastroenterology and Hepatology (KCGH) in Sulaimani Teaching Hospital in Sulaimani/Iraq.

This center is the only center for gastroenterology and hepatology in Sulaimani/Iraq. It had been established since (July – 2007). At KCGH the staff & doctors receive patients from outpatient clinics, privates, surgical & medical wards from Sulaimani city and remote Governorates .

Study Population: This study was approved by Ethics Committee of School of Medicine, University of Sulaimani included 250 patients (135 females &115 males). After explaining the nature and purpose of the study and obtaining agreement from patients, who presented to KCGH for OGD in the period between 1st of October 2012 to 17th of March 2013 and having symptoms of more than four weeks duration were included in this study.

Exclusion criteria were: 1-Patients of age less than 13years. 2-Patients with documented chronic liver disease.3-Patients who had advanced Cancer.4-Severly ill patients who couldn't concentrate to fill the questionnaire.5-Patient with complex medical or surgical conditions were excluded.

Study instrument:

The data acquired via the questionnaire which consisted of 3 parts:

1st part : Socio-demographic data including age (year), gender, level of education, occupation, residency, economy. 2nd part: Symptoms of the patients including: loss of appetite, dysphagia, early satiation, epigastric pain, fullness & burning, nausea & vomiting, heamatamesis & melena, regurgitation , unexplained weight loss & iron deficiency anemia(IDA).

3rd part: risk factors of gastropathies including: stressful life, information concerning alcohol drinking behavior, smoking history.

About stress, general characteristics of stressed person at work [13]. Participant were asked about alcohol intake and the answer categorized as alcohol drinker, not drinking at all & stopped drinking alcohol. Smoking history were asked, the answers were categorized to three groups current smoker, Never-smokers, Ex-smokers [14].

The method used for recording answers was close-ended questions in which the answers were listed as "Yes" or "No" and correct answer were chosen. After informed consent was obtained and after completion of the questionnaire, upper gastrointestinal endoscopy was performed, the esophagus, stomach and duodenum were visualized and mucosal finding on endoscopy were noticed by (OLYMPUS® /Exera, Exera Π & Lucera, Tokyo – Japan). Endoscopic biopsies were taken according to the decision of endoscopist, results of biopsies followed up & included in the study.

Statistical analysis :
Data was entered into microsoft excel spreadsheet, then transported into SPSS(version 16). Chi-square, Fisher exact test used for data analysis & P value <0.05 was considered as significant.

Results
Socio-demographic characteristics
Aamong 250 patient ,135(54%) were females & 115(46%) were males. Residency of patients were as follow, 58% were from urban area while 42% were from rural areas. Regarding occupation, 40.8% of female patients were housewives, 10.4% of male patients were out of work, 20% were government employed, 16.4% were self employed , 10% were student & both non-government employed & retired patients frequency was equal to 1.2%. About the level of education of the patients, 34.4% were illiterate, 14.4% read & write, those with primary & secondary level of education were 21.6%, 13.2% respectively & 16.4% were graduate & post graduate. The age ranged from 13 to 95 years, the median age was 41.5 years. (Not tabulated) .

Table (1) shows distribution of the patients according to gender in relation to groups of upper GIT problems, in gastric problems & esophageal problems, the highest frequencies were among males 53.6%, 60.9% respectively. The relation between groups of upper GIT problems & gender were statistically significant, p value= 0.019.

Table(1) Distribution of patients according to gender in relation to groups of gastropathies.

Gender	Groups					P value
	Gastric problem N (%)	Duodenal problem N (%)	esophageal problem N (%)	Others N (%)	Normal N (%)	
Female Male Total	51(46.4%) 59(53.6%) 110(100%)	23(54.8%) 19(45.2%) 42(100%)	9(39.1%) 14(60.9%) 23(100%)	7(70.0%) 3(30.0%) 10(100%)	45(69.2%) 20(30.8%) 65(100%)	0.019

Fig (1) Distribution of the patients according to socioeconomic state shows the highest percentage among the moderate socioeconomic status 68%.

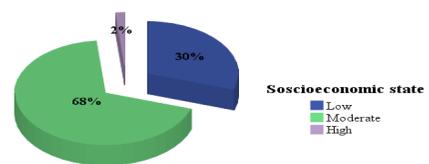**Fig(1) Distribution of the Patients according to Socioeconomic state**

Fig.(2) shows the percentage of each group of endoscopic findings that gastric problems were 44% which were the highest frequency among the groups then the next to it were the normal endoscopic findings 26%, then the duodenal problems 17%, esophageal problems were 9% & the lowest frequency was among others group 4% which consist of (GERD 9 patients , Hiatus hernia 3 patients ,GIST 1 patient).
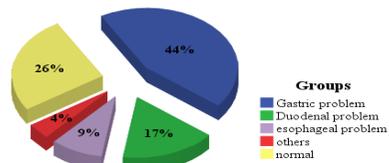

Fig.(2) Groups of endoscopic finding.

Fig.(3) Distribution of patients according to Endoscopic Finding shows Highest frequency among Gastritis 32.8% & lowest frequency among ampulary mass &Gastro-Intestinal stromal tumor (GIST) 0.4%.
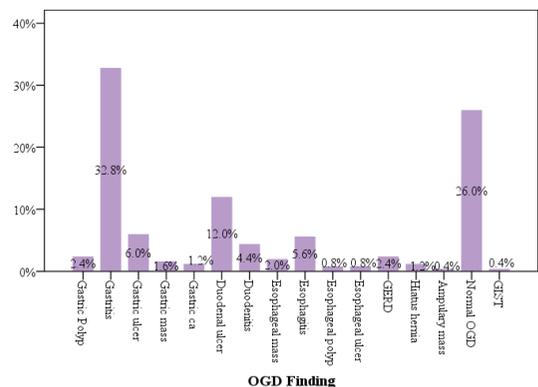

Fig.(3) Distribution of dyspeptic patients according to Endoscopic Finding.

Table(2) Distribution of patients according to socioeconomic state in relation to the endoscopic finding shows: Highest frequency of gastric problems 49.3% in low socioeconomic state & lowest frequency among others group 2.7%.Highest frequency of gastric problems 42.7% in moderate socioeconomic state & lowest frequency among others group 4.7%.

-Highest frequency of esophageal & normal endoscopic finding 50% in high socioeconomic state.

Statistically there was no significant relationship between socioeconomic state of patients & Endoscopic Finding P = 0.103.

Table(2) Distribution of patients according to the soscioeconomic state in relation to the Endoscopic findings.

Socioeconomic state	Groups					P value
	Gastric problem N(%)	Duodenal problem N(%)	esophageal problem N(%)	Others N(%)	Normal N(%)	
Low	37(49.3%)	12(16%)	4(5.3%)	2(2.7%)	20(26.7%)	
Moderate	73(42.7%)	30(17.5%)	17(9.9%)	8(4.7%)	43(25.1%)	
High	0(0.0%)	0(0.0%)	2(50%)	0(0.0%)	2(50%)	0.103
Total	110(44.0%)	42(16.8%)	23(9.2%)	10(4%)	65(26%)	

Table(3) distribution of patients according to their symptoms in relation to groups of upper GI problems shows that those patients who had loss of appetite, early satiety, epigastric pain, fullness & heart burning, nausea & vomiting, heamatamesis & melena, regurgitation, unexplained weight loss and iron deficiency anemia were mainly associated with gastric problems. These symptoms in relation to groups of endoscopic finding were statistically non-significant, p value (0.061, 0.590, 0.078, 0.099, 0.051, 0.405, 0.678, 0.161, 0.243) respectively.

While for dysphagia highest frequency was gastric problems &esophageal problems 33.3% & lowest frequency was duodenal problems & other problems 6.7%.Statistically this relation was significant, P value 0.018.

Table(3) Distribution of patients according to symptoms in relation to groups of upper GI problems

Symptoms	Groups					P value
	Gastric problem N(%)	Duodenal problem N(%)	esophageal problem N(%)	Others N(%)	Normal N(%)	
Loss of appetite Yes No Total	51(37.5%) 59(51.8%) 110(44.0%)	21(15.4%) 21(18.4%) 42(16.8%)	16(11.8%) 7(6.1%) 23(9.2%)	5(3.7%) 5(4.4%) 10(4.0%)	43(31.6%) 22(19.3%) 65(26.0%)	0.061
Dysphagia Yes No Total	5(33.3%) 105(44.9%) 110(44.2%)	1(6.7%) 41(17.5%) 42(16.9%)	5(33.3%) 18(7.7%) 23(9.2%)	1(6.7%) 9(3.8%) 10(4.0%)	3(20.0%) 61(26.1%) 64(25.7%)	0.018
Early satiety Yes No Total	88(46.3%) 22(36.7%) 110(44.0%)	33(17.4%) 9(15.0%) 42(16.8%)	16(8.4%) 7(11.7%) 23(9.2%)	7(3.7%) 3(5.0%) 10(4.0%)	46(24.2%) 19(31.7%) 65(26.0%)	0.590
Epigastric pain Yes No Total	103(45.0%) 7(33.3%) 110(44.0%)	41(17.9%) 1(4.8%) 42(16.8%)	18(7.9%) 5(23.8%) 23(9.2%)	9(3.9%) 1(4.8%) 10(4.0%)	58(25.3%) 7(33.3%) 65(26.0%)	0.078
Fullness & heart Burning Yes No Total	102(45.9%) 8(28.6%) 110(44.0%)	38(17.1%) 4(14.3%) 42(16.8%)	18(8.1%) 5(17.9%) 23(9.2%)	10(4.5%) 0(0.0%) 10(4.0%)	54(24.3%) 11(39.3%) 65(26.0%)	0.099
Nausea & vomiting Yes No Total	65(43.6%) 45(45.0%) 110(44.2%)	24(16.1%) 18(18.0%) 42(16.9%)	20(13.4%) 3(3.0%) 23(9.2%)	7(4.7%) 3(3.0%) 10(4.0%)	33(22.1%) 31(31.0%) 64(25.7%)	0.051
Heamatamesis &malene Yes No Total	25(40.3%) 85(45.2%) 110(44.0%)	11(17.7%) 31(16.5%) 42(16.8%)	9(14.5%) 14(7.4%) 2(9.2%)	1(1.6%) 9(4.8%) 10(4.0%)	16(25.8%) 49(26.1%) 65(26.0%)	0.405
Regurgitation Yes No Total	29(43.3%) 81(44.3%) 110(44.0%)	11(16.4%) 31(16.9%) 42(16.8%)	9(13.4%) 14(7.7%) 23(9.2%)	3(4.5%) 7(3.8%) 10(4.0%)	15(22.4%) 50(27.3%) 65(26.0%)	0.678
Unexplained WT Loss Yes No Total	39(36.1%) 71(50.0%) 110(44.0%)	22(20.4%) 20(14.1%) 42(16.8%)	11(10.2%) 12(8.5%) 23(9.2%)	3(2.8%) 7(4.9%) 10(4.0%)	33(30.6%) 32(22.5%) 65(26.0%)	0.161
IDA Yes No Total	19(45.2%) 91(43.8%) 110(44.0%)	4(9.5%) 38(18.3%) 42(16.8%)	4(9.5%) 19(9.1%) 23(9.2%)	4(9.5%) 6(2.9%) 10(4.0%)	11(26.2%) 54(26.0%) 65(26.0%)	0.243

Table (4) shows that those patients who had stress highest frequency of them had gastric problems 42.9% & lowest frequency had other problems 5.2%. This relation statistically were significant, P = 0.015.

Table(4)Distribution of dyspeptic patients according to stress in relation to endoscopic findings.

Stress	Groups					P value
	Gastric problem N(%)	Duodenal problem N(%)	esophageal problem N(%)	Others N(%)	Normal N(%)	
Yes	82(42.9%)	35(18.3%)	12(6.3%)	10(5.2%)	52(27.2%)	
No	28(47.5%)	7(11.9%)	11(18.6%)	0(0.0%)	13(22.0%)	0.015
Total	110(44.0%)	42(16.8%)	23(9.2%)	10(4.0%)	65(26.0%)	

Table (5) shows that those patients who were not drinking alcohol, the highest frequency was gastric problems 43.0%& the lowest frequency was other problems 4.1%. Those patients who were drinking alcohol highest frequency was among gastric problems 30.0% & lowest frequency was among other problems 0%. Those patients who were stopped drinking alcohol highest frequency was among gastric problems 63.2% & lowest frequency was among other problems 5.3%. Statistically this relation was non-significant, P value 0.602.

Table(5)Distribution of dyspeptic patients according to alcohol use in relation to endoscopic findings.

Alcohol	Groups					P value
	Gastric problem N(%)	Duodenal problem N(%)	esophageal problem N(%)	Others N(%)	Normal N(%)	
Yes	3(30.0%)	2(20.0%)	2(20.0%)	00.0%	3(30.0%)	
No	95(43.0%)	38(17.2%)	19(8.6%)	9(4.1%)	60(27.1%)	0.602
Stopped alcohol use	12(63.2%)	2(10.5%)	2(10.5%)	1(5.3%)	2(10.5%)	
Total	110(44.0%)	42(16.8%)	23(9.2%)	10(4.0%)	65(26.0%)	

Table (6) shows smoking in relation to endoscopic finding that current smokers highest frequency was among gastric problems 62.2% & lowest frequency was among other problems 2.2%. The never smoked patients, highest frequency was gastric problems 40.9% & lowest frequency was other problems 3.2%. Regarding X-smoker patients highest frequency was among gastric problems 31.6% & lowest frequency was among esophageal problems 10.5%. Statistically this relation were significant, P = 0.018.

Table(6)Distribution of dyspeptic patients according to smoking habit in relation to sndoscopic finding.

Smoking	Groups					P value
	Gastric problem N(%)	Duodenal problem N(%)	esophageal problem N(%)	Others N(%)	Normal N(%)	
Current smoker	28(62.2%)	4(8.9%)	6(13.3%)	1(2.2%)	6(13.3%)	
Never smoked	76(40.9%)	35(18.8%)	15(8.1%)	6(3.2%)	54(29.0%)	
X-smoker	6(31.6%)	3(15.8%)	2(10.5%)	3(15.8%)	5(26.3%)	0.018
Total	110(44.0%)	42(16.8%)	23(9.2%)	10(4.0%)	65(26.0%)	

Table (7) shows that highest age mean was among hiatus hernia (70.00±5.000 years). Lowest age mean was among ampulary mass(26.00±0 years)

Table(7) distribution of patients according to endoscopic finding in relation to age mean

Endoscopic Findings	Mean ± Std. Deviation
Gastric Polyp	55.00±17.413
Gastritis	47.17±17.778
Gastric ulcer	52.33±17.426
Gastric mass	64.50±5.260
Gastric ca	53.67±11.846
Duodenal ulcer	40.63±14.392
Duodenitis	34.36±16.256
Esophageal mass	66.60±23.007
Esophagitis	44.57±23.533
Esophageal polyp	52.50±24.749
Esophageal ulcer	47.00±32.527
GERD	41.67±18.096
Hiatus hernia	70.00±5.000
Ampulary mass	26.00±0
Normal OGD	38.35±15.345
GIST	41.00±0
Total	44.70±18.048

Fig.(4)Results of biopsy taken from 64 out of 250 Dyspeptic patients, Shows highest percentage among H-Pylori +ve which was 27.7%, normal mucosa was 20%, hyperplastic polyp was 10.8%, peptic duodenitis & esophagitis was 7.7%, gastritic ca was 6.2%, reactive gastritis was 12.3%, esophageal ca was 4.6%, ampulary ca & intestinal metaplasia were 1.5%.
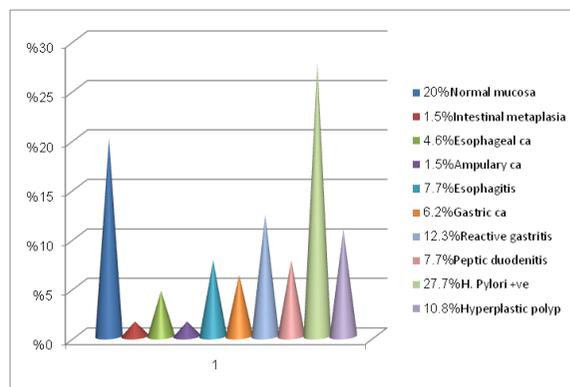

Fig. (4) Result of biopsy

Discussion

This observational study, out of 250 dyspeptic patients, 54% were females & 46% were male , the mean age for all were 44.70±18.04 years, while the mean age regarding gender distribution were 46.38±18.91 years, for both males & females, which wasn't statistically significant , this goes with a study done in Kuwait [15], & in contrast to a study done in Baghdad [16], this may be explained by the fact that all cases of Baghdad presented with GI bleeding which could be consider as emergencies & the patients were enforced to leave their work to get treatment, while in this study the cases were complaining mainly from dyspepsia that some males may neglect until having a free time from their work. Regarding gender in relation to groups of upper GIT problems, it's found that the frequency of gastric problems in males 53.6%, is higher than females 46.4% & esophageal problems were much higher in males 60.9%, but lower in females 39.1%, while the frequency of duodenal problems were higher in females 54.8% than in males 45.2%, also other problems were higher in females 70%, if compared to males 30% & normal endoscopic findings were higher in females 69.2%, than in males 30% this goes in contrast with studies done in Basrah[17], in Sudan[18] &a study done in Sulaimani /Iraq , [19], this may be explained by life style of males in these communities which differ from females regarding smoking, alcohol & dietary style. About socioeconomic state in this study the highest frequency was moderate socioeconomic state 68%, which were mainly associated with gastric problems 42.7%, in comparison with a study done In sulaimani/Iraq that the highest frequency was among low socioeconomic state[20].

Concerning symptoms of patients, most frequent symptom in this study from which 45% had mainly gastric problems were epigastric pain 91.6% & association between epigastric pain & groups of upper GIT problems were non-significant, p value 0.078, while regarding dysphagia, it's relation with endoscopic findings were statistically significant, p value 0.018, while a study done in Baghdad found that the highest percentage with epigastric pain were among those with duodenal ulcer[21], another study done in Bangkok although it was found that abdominal bloating & fullness were more common but the association between symptoms and upper GIT problems were not significant[22]

Regarding stressful life of patients in this study it's found that 76.4% of patients had stressful life & among those 42.9% with gastric problems & there was a significant association between stress & endoscopic findings (P value 0.015) ,while a study done in Bangkok the results were in contrast with this study in which the association statistically were non-significant[22].

Regarding alcohol drinking in this study it's found that 4% of all patients drinking alcohol regularly which was lower than results in a study done in Sulaimani /Iraq , that alcohol drinker were 8.3% [20].

Among those alcoholics in this study 30% of them with gastric problems & normal endoscopic finding equally & the association between alcohol drinking & endoscopic findings were non-significant (p value 0.602) which was in agreement with a study done in Bangkok [22]. Current smokers in this study were 18%, from which 62.2% of them had gastric problems& the association between smoking & endoscopic findings were significant (p value 0.018). The percentage of smoker goes with studies done in Sulaimani /Iraq that smokers were 17.7%[19] & 23%[23] respectively, but is in contrast to a study done in Bangkok [22].

The most frequent endoscopic finding in this study was gastritis 32.8% that is in contrast to studies done in Basrah [17] & in Pakistan [24], that peptic ulcer disease were most common finding there, while a study done in Amsterdam, the most frequent finding was normal endoscopic finding[25]. Non-ulcer dyspepsia constitute 26% of total patients in this study, which was compatibles to the results of the study done in Pakistan[24] while in a study done in USA and England non-ulcer dyspepsia was reported in 50% of population[26]. Gastric malignancy were a serious cause of dyspepsia and reported by endoscopic biopsy in 6.2% of cases in this study, to compare with a study done in Pakistan, that gastric malignancies were 3%[23], which was almost same as reported in national literatures[27,28]. Gastric malignancy reported in age group 41-65 years in this study, which goes with a study done in Pakistan[24]. Age group related to the most frequent OGD finding showed that the mean of age group of gastritis was 47.17±17.778 years in this study.

About biopsy results, out of 64 patients from whom biopsies taken for different indications like gastritis, gastric ulcers, duodenitis & duodenal ulcers. In this study H.pylori positive results were 27.7%, which were in agreement with that of Bangkok that showed 23%[22], while another study done in Sulaimani/Iraq showed much high percentage 62.7%[29], in Mosul a study done , showed very high percentage 86.9%[30], this study in contast with another study done in Kenya that showed higher percentage of H.pylori 71% [31]. This decreasing in the percentage in this study may be explained by treating the H.pylori by the drug of choice.

Conclusions

Age of patients related significantly to endoscopic findings & significant findings related mainly to middle age group. Symptoms of patients did not related significantly to endoscopic findings (except dysphagia) so they were not good predictors for underlying pathology.

Stress & smoking were important risk factors which significantly related to endoscopic findings. Gastric problems were the major cause for dyspepsia in this sample.The highest percentage of the biopsy results were H. pylori positive which was less than the percentage in other studies .

REFERENCES

1-Adelman A. dyspepsia In: Mark B. Mengel, L.Peter Schwiebert, Family Medicine, | fourth edition, published in USA by Lang medical books/ McGraw-Hill 2005, p 112-113. | 2-Nyren O. Functional dyspepsia –adisorder of the stomach, In: The stomach . Edited by | Gustavsson S, Kumar D, Graham DY. New York: Churchill Livingstone; 1992:385- 416. | 3-Tally N. Nonulcer dyspepsia. In : Yamada T.Philadelphia: JB Lippincott . Textbook of | gastroenterology, edn3. 1995:1446-1455. | 4-Timmons S. Functional dyspepsia: motor abnormalities, sensory dysfunction and | therapeutic options. Am J Gastroenterol 2004; 99; 739-12. | 5-Camilleri M. Functional dyspepsia: mechanism of symptoms generation and | appropriate management of patients. Gastroenterol Clin North Am 2007; 36:9-10. | 6-Tally N, Vakil N, Moayyedi P. American gastroenterological association technical | review on the evaluation of dyspepsia. Gastroenterology 2005;129:1756-1780. | 7-Ford A, Tally N. Practice Parameters Committee of the American College of | Gastroenterology: Guide Lines for the management of dyspepsia. AMJ | Gastroenterology 2005; 100:2324-6. | 8-Emmrich J, Linnebacher M. Dyspepsia and endoscopic findings - Review article. | Intern J Gastroent Hepatol 2008; 57:549-54. | 9-Levin T, Schmittdiel J, Kunz K, Henning J, Henke C, Colby C, et al. Costs of acid- | related disorders to a health maintenance organization. Am J Med 1997;103: 520-528. | 10-Moayyedi p, Mason J. Clinical and economic consequences of dyspepsia in the | community. Gut 2002; 50 Suppl 4: iv10-iv12. | 11-Fedail S. Araba B, Homeida M, Chandom Z. upper gastrointestinal fibreoptic | endoscopy experience in Sudan Lancet 1993; 2:897-899. | 12-Al-Hilly H, Al-Sikafy H, Bakes S.Al-obidy K, Endoscopy in the diagnosis of | dyspeptic patients in Basrah region MJBU 1990;9:93-99. | 13-Longmore M, Wilkinson I, Turmezei I, Cheng C, Gastrenterology In:Oxford Hand | Book Of Clinical Medicine, Seventh Edition. Published in the United State by Oxford | University Press Inc., New York,2007 ,P 249. | 14-AL-Moagel M, Evans D, hani ME, Adam E, Evans D, Malaty H, et al . Prevalence of | Helicobater pylori (formerly Campylobacter pylori) infection in Saudi Arabia, and | comparison of those with and without upper gastrointestinal symptoms. Am J | Gastroenterology 1990;85:944-8. | 15-Abahussain.E, Fuad A, Hasan and Paul J. Nicholls. Dyspepsia and Helicobacter pylori | infection: Analysis of 200 Kuwaiti patients referred for endoscopy. Annals of Saudi | Medicine 1998; Vol 18, No 6. P 503-504. | 16-Selman N. Role of Helicobacter pylori infection and nonsteroidal anti-inflammatory | drugs use in bleeding peptic ulcers[FICMS], College of Medicine, Al-Nahrain | University, Iraq, 2006, P16. | 17-Strak. S. Upper Gastro Intestinal Endoscopy Findings In Patients with dyspeptic | symptoms in Basrah , College of Medicine University of Basrah, Iraq .IJGE Issue 3, | 2002 Vol 1, P46. | 18-Shoboksh O, Al-Sqffizy, Zahrani J. Prevalence of endoscopic findings, Saudi Journal | Vol 15 .1994 : P 372-388. | 19-Aziz M. Clinical Characteristics of Peptic Ulcer Disease Patients Proved By | Endoscopy [Diploma], College of Medicine, Sulaimani University, Iraq, 2007, P 9. | 20-Khdhir B. Histological demonstration of Helicobacter Pylori in patients with gastritis | and peptic ulcer disease in Sulaimani [M.sc], Department of pathology, University of | Sulaimani, Iraq, 2008, p 7. | 21-Al sudani, M. Endoscopic finding in elderly patients with dyspepsia [FICMS], Al | Mustansiria college of Medicine Department of Medicine, Iraq, 2010, p 10. | 22-Choomsri P, Bumpenboon W, Wasuthit Y, Euanorasetr Ch, Sumritpradit P, | Suwanthunma W, et al. Upper gastrointestinal endoscopic findings in patients | presenting with dyspepsia, Department of surgery, Mahidol University, Bangkok, | Thailand, The THAI journal of surgery 2010, Vol. 31 . p : 9-10. | 23-Rahman A. Upper gastrointestinal endoscopic findings in patients with obstructive | jaundice underwent endoscopic retrograde cholangoiopancreatography [FICMS], | Sulaimani University, Iraq, 2010, p 39-40. | 24-Haider I, Bangash M, Faheem M, Ahmed I. Endoscopic finding in 100 patients | presenting with dyspepsia, Department of medicine, Postgraduate medical institute, | lady reading hospital, Peshawar, Pakistan, JPMI 2009, Vol 23, p 219. | 25-Tytgat G. Role of endoscopy and biopsy in the work up of dyspepsia, Gut, | Department of gastroenterology and hepatology, Academic medical center, | moibergdreef, Amsterdam, the Netherlands, 2002, gut.bmj. com.2012 | 26-Jones M. Evaluation and treatment of dyspepsia. post Med J 2003; 79: 25-9. | 27-Rehman M, Khan I, Shah M. Clinical features and endoscopic finding in peptic ulcer. | J postgrad Med Inst 1998; 12:51-3. | 28-Ziauddin M. Endoscopic findings in dyspepsia: A prospective study of 200 cases. J | postgrad Med Inst 2003; 17(2): 235-9. | 29-Sheikhani M, AlKarbuly T, Muhammad P. Helicobacter pylori infection | among dyspeptic patients referred for endoscopy [FICMS], College of | medicine, University of Sulaimani, Iraq, 2008, p3. | 30-Ayoub M. Frequency of helicobacter pylori infection among dyspeptic patients in | Mosul [FICMS], College of medicine, University of Mosul, Iraq, 2009, p 25. | 31-Shmuely H, Obure S, Passaro D. Dyspepsia symptoms and Helicobacter | pylori infection , Nakuru, Kenya, Emerging infectious disease 2003, vol 9,19, p 1103- 1107. |