Prospective Study of Upper Gastro Intestinal Tract Endoscopy Finding and its Relation to Smoking in Baquba Teaching Hospital

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Abstract

Background: The associations of smoking with endoscopic finding abnormalities were established especially in peptic ulcer that found of clear relation between smoking and peptic ulcer .

Objective: The aims of this study were to understand the relation and association of ulcers with smoking, in addition to disorders finding like inflammations (esophagitis, doudenitis, gastritis), cancer and other cases.

Patients and Methods: This study comprised of 1231 out patients admitted to Baquba teaching hospital in endoscopic finding unit of Baquba city-Iraq during the period between January 2014 to January 2015, 643 patients were males and 588 were females, ranging in age from 7 to 87 years, According to smoking habits, the patients were divided into three categories: non-smokers, current smokers, ex-smokers. The diagnostic endoscopic findings were concentrated only of the disorders lesions in GIT of ulcerations, inflammations, cancers, and other cases. In addition to normal findings who were established endoscopy without diagnoses of disorders .

Results: The result showed increased of percentage (31.6%) of duodenal ulcer in male smokers and Gastritis in female (25.8%) of smokers. The frequency of duodenal, gastric ulcers and gastric cancer that showed high level in smoker's male ulcer and non-smokers female ulcer compared with another disorders value of smokers, non- smokers and ex-smokers. Duodenitis, gastritis, esophagitis was high percentage in female non- smokers recorded ($p<0.05$) between smokers with non-smokers. Gastric cancer showed high percentage in male smokers (n=7) and female non- smokers (n=7) recorded ($p<0.05$) between smokers with ex-smokers and non- smokers. Other cases, showed high percentage (n=69) in non-smokers

Conclusion: Significance relationships between smoking with ulcer and gastritis, especially by duodenal ulcer in male smokers and gastritis in female smokers, the reasons is effecting of smoking .

Key words: Endoscopy, Smokers, non-Smokers, Ex-Smokers. Upper GIT.

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Introduction

The relationship between smoking and upper GIT ulcers is established especially finding in peptic ulcer that found of clear association between smoking and peptic ulcer [1]. Peptic ulcer disease appeared in patients between 40-60 years of age and can observed in children, infants and the incidence of peptic ulcer in women is almost equal to that in men [2].

Smoking has the potential to interfere with ulcer healing and is strong evidence that smoking may slow down ulcer healing rates [3]. And acts a secondary factor influencing ulcer formation and slow ulcer healing [4]. When after ulcers have healed, they are likely to relapse sooner and more often in smokers than in non-smokers [5].

In the past, stress and anxiety were caused of ulcers but researchers has documented that causes of ulcers are infected by *Helicobacter Pylori* [6, 7]. Excessive secretion of HCL in stomach and stress may contribute to the formation of ulcers, and ingestion of milk, caffeinated beverages, smoking and alcohol also may increase HCL secretion [8]. Other predisposing factor include chronic use of non-steroidal anti-inflammatory drugs (NSIDS), alcohol, excessive smoking with tumor and Zollinger-Ellison Syndrome (ZES) [9].

Smoking may change the concentration of certain enzymes to level that conductive to ulceration [3,4] Also reduced epidermal growth factor (EGF) is a growth factor that stimulates cell growth, proliferation, and differentiation by binding to its receptor EGFR. [10].

Smokers act to increase risk of ulceration by increase acids secretion and pancreatic secretion of bicarbonate is diminishing mucosal protection and duodenal bulb becomes more acid [11].

The present study aims to understand the relation of ulcers that association with smoking and compared to another diseases like cancer and other inflammations.

Patients and Methods

This study comprised of 1231 out patients admitted to Baquba teaching hospital in endoscopic finding unit of Baquba city-Iraq during the period between January 2014 to January 2015, 643 patients were males and 588 were females, ranging in age from 7 to 87 years, were included in this study.

According to smoking habits, the patients were divided into three categories: non-smokers, current smokers, ex-smokers (who left smoking period at last 6 month before endoscopy).

The patients were clinically assessed and full information had been taken directly from the patients, the information was arranged in an informative formula sheet which includes: Age, gender, other details of smoking history including smoking habit, non-smoking, smoking stopped (ex-smokers) and average of cigarettes consumption.

The diagnostic endoscopic findings were concentrated only of the disorders lesions in GIT of ulcerations, inflammations, cancers, and other cases. In addition to normal findings who were established endoscopy without diagnoses of disorders.

Statistical analysis

Chi-Square test t-test were used to obtain statistically significant differences between studied group with $p<0.05$ being considered statistically significant.

Results

The present study consist of 1231 patients undergo, male was 643(52.23%) and female was 588 (47.76%). Table (1) showed of the endoscopic findings in each of three groups, current smokers (284), non-smokers (882) and ex-smokers (65). Normal findings and total (males, females).

The result showed increased of percentage (31.6%) of duodenal ulcer in male smokers and Gastritis in female (25.8%) of

smokers, when compared with total of male and female smokers recorded (P< 0.05) comparative with another values of GIT endoscopic findings. Also showed increased of percentage in normal male of smokers (29.25%), Non-smokers (44.9%) and Ex-smokers (35.19%), in normal female (22.58%, 54.2%, 54.55%) respectively, when compared with total smokers, non-smokers, ex-smokers recorded the same significance.

Table (1): Means of Endoscopic Diagnosis in Current Smokers, Non- Smokers and Ex-Smokers.

Endoscopi Findings	Total Male	Total Female	Total Mean	Smokers		Non- Smokers		Ex- Smokers		P.value
				Male %	Female %	Male %	Female %	Male %	Female %	
D. Ulcer	*(135) 54.1%	(78) 41.23%	213	(80)* (31.6)	(3) 9.68%	(51) 15.18%	(73) 13.37%	(4) 7.41%	(2) 18.18%	0.05
G. Ulcer	(9) 6.36%	(4) 6.86%	13	(6) 2.37%	(2) 6.49%	(1) 0.29%	(2) 0.37%	(2) 3.7%	0	N.s
Esophagitis	(9) 7.64%	(9) 7.73%	18	(3) 1.19%	(2) 6.45%	(3) 0.9%	(7) 1.28%	(3) 5.55%	0	N.s
Gastritis	(81) 32.05%	(77) 38.43%	158	(34) 13.4%	(8) 25.8%	(44) 13.1%	(69)* 12.63%	(3) 5.55%	0	0.05
Doudenitis	(56) 31.75%	(52) 30.61%	108	(34) 13.4%	(4) 12.9%	(14) 4.17%	(47) 8.61%	(8) 14.81%	(1) 9.1%	N.s
G. Cancer	(13) 9.22%	(9) 16.83%	22	(7) 2.77%	(2) 6.45%	(3) 0.9%	(7) 1.28%	(3) 5.55%	0	N.s
Other Cases	(96) 48.66%	(50) 36.1%	146	(15) 5.9%	(3) 9.68%	(69) 20.54%	(45) 8.24%	(12) 22.22%	(2) 18.18%	N.s
Normal	(244) 109.3%	(309) 131.2%	553	(74) 29.2%	(7) 22.54%	(151) 44.9%	(296)* 54.2%	(19) 35.15%	(6)* 54.55%	0.05
Total	643	588	11231	253	31	336	546	54	11	

The frequency of duodenal, gastric ulcers and gastric cancer that showed high level in smoker's male ulcer and non-smokers female ulcer compared with another disorders value of smokers, non- smokers and ex-smokers. When compared frequency of inflammations (esophagitis, gastritis, duodenitis) in male and female that indicated of high level frequency in non-smokers female and smokers male compared with another determinations as shown in figure 1 and 2.

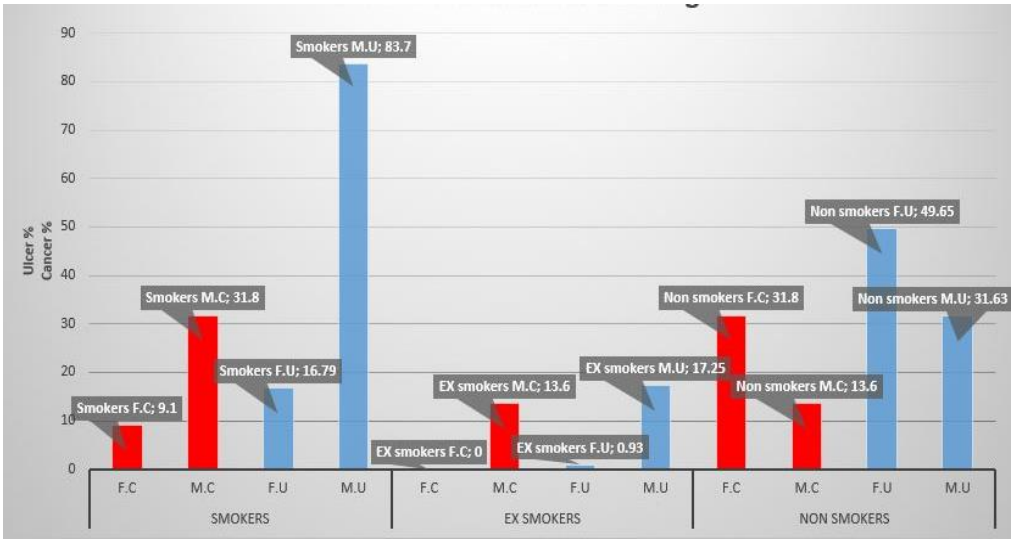

Figure (1): Showed Frequency of Gastric Ulcer, Duodenal Ulcer, Cancer and relation to smoking.

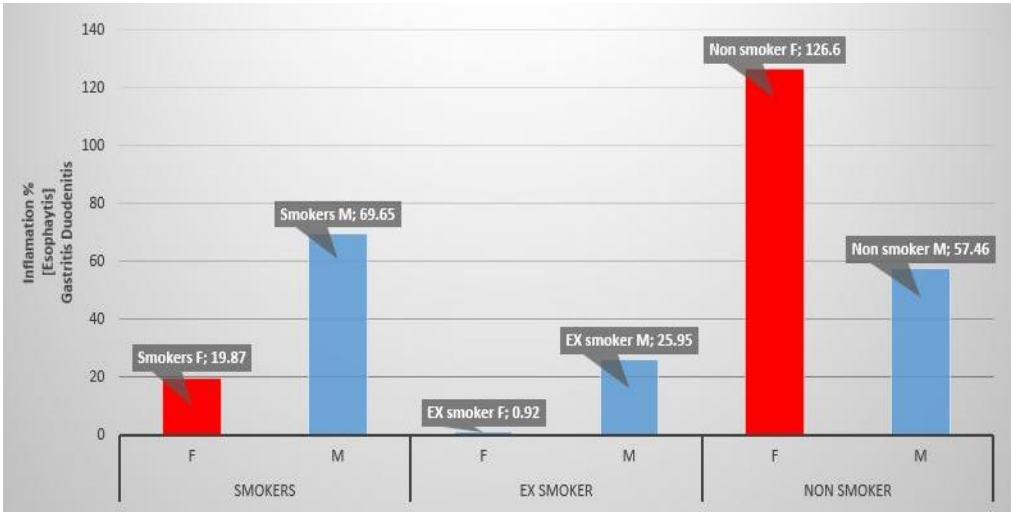

Figure (2): Showed Frequency of Inflammations (Esophagitis, Gastritis, Duodenitis) and relation to smoking.

According to table 2, the relationships between GIT Endoscopic Findings in (smokers, non-smokers and ex-smokers) which indicated that high percentage in male smokers (n=80) and non–smokers female (n=73) of duodenal ulcer recorded ($p< 0.05$) between smokers, non- smokers and with ex-smokers but not recorded any significance between non-smokers with ex-smokers when compared smokers with non-smokers in gastric ulcer recorded high significance ($p< 0.01$), and recorded ($p< 0.05$) between non–smokers with ex–smokers, and no significance between smokers with ex-smokers.

Table (2): Relationships between patients with D. ulcer and G. ulcer and smoking habit (smokers and non-smokers), (smokers and ex- smokers), (non- smokers and ex- smokers).

Endoscopic Findings	Smoking Cases	Gender	Means	Values %	Relation Smok.&no *P.Value*	Relation smok.&ex *P.Value*	Relation no & ex. *P.Value*
D. Ulcer	Smokers	M	80	37.5%	0.05	0.05	N.S
		F	3	1.4%			
	Non-smokers	M	51	23.9%			
		F	73	34.27%			
	Ex-smokers	M	4	1.87%			
		F	2	0.93%			
G. Ulcer	Smokers	M	6	46.15%	0.01	N.S	0.05
		F	2	15.38%			
	Non-smokers	M	1	7.69%			
		F	2	15.38%			
	Ex-smokers	M	2	15.38%			
		F	0	0			

Table 3, showed high percentage of duodenitis in non-smokers female (n= 47) recorded (p< 0.05) between smokers with non- smokers and non- smokers with ex-smokers and no significance between smokers with ex-smokers.

Gastritis is high percentage in female non-smokers (n= 69) recorded (p< 0.05) between smokers with non-smokers and the same significance between smokers with ex-smokers, but no significance between non-smokers with ex-smokers.

Esophagitis showed high percentage in female non- smokers (n= 7) recorded (p< 0.05) between non- smokers with ex-smokers, but no recorded any significance between smokers with non- smokers and ex-smokers.

Table (3): Relationships between patients with Doudenitis, Gastritis, Esophagitis and smoking habit (smokers and non-smokers), (smokers and ex- smokers), (non- smokers and ex- smokers).

Endoscopic Findings	Smoking Cases	Gender	Means	Values %	Relation Smok.&no *P.Value*	Relation smok.&ex *P.Value*	Relation no & ex. *P.Value*
Doudenitis	smokers	M	34	31.48%	0.05	N.S	0.05
		F	4	3.7%			
	Non-smokers	M	14	12.96%			
		F	47	43.5%			
	Ex-smokers	M	8	7.4%			
		F	1	0.92%			
Gastritis	smokers	M	34	21.51%	0.05	0.05	N.S
		F	8	5.06%			
	Non-smokers	M	44	27.8%			
		F	69	43.67%			
	Ex-smokers	M	3	1.89%			
		F	0	0			
Esophagitis	smokers	M	3	16.66%	N.S	N.S	0.05
		F	2	11.11%			
	Non-smokers	M	3	16.66%			
		F	7	38.88%			
	Ex-smokers	M	3	16.66%			
		F	0	0			

Gastric cancer showed high percentage in male smokers (n=7) and female non-smokers (n=7) recorded ($p<0.05$) between smokers with ex-smokers and non- smokers with ex-smokers but no significance recorded between smokers with non- smokers.

Other cases, showed high percentage (n=69) in non-smokers recorded ($p< 0.05$) between non- smokers with ex- smokers and the same significance between smokers with ex- smokers but no significance between smokers with non- smokers. Normal cases, showed high percentage in male and female non-smokers (44.94%, 54.21%) and female ex- smokers (54.54%) recorded ($p< 0.05$) between non- smokers with smokers and between ex- smokers with smokers but no recorded any significance between non-smokers with ex- smokers as shown in table 4.

Table (4): Relationships between patients with Gastric Cancer, Other Cases, Normal and smoking habit (smokers and non-smokers), (smokers and ex- smokers), (non- smokers and ex-smokers).

Endoscopic Findings	Smoking Cases	Gender	Means	Values %	Relation Smok.&no *P.Value*	Relation smok.&ex *P.Value*	Relation no & ex. *P.Value*
Gastric Cancer	Smokers	M	7	31.8%	N.S	0.05	0.05
		F	2	9.1%			
	Non-smokers	M	3	13.6%			
		F	7	31.8%			
	Ex-smokers	M	3	13.6%			
		F	0	0			
Other Cases	Smokers	M	15	10.27%	N.S	0.05	0.05
		F	3	2.05%			
	Non-smokers	M	69	47.26%			
		F	45	30.82%			
	Ex-smokers	M	12	8.22%			
		F	2	0			
Normal	Smokers	M	74	29.49%	0.05	0.05	N.S
		F	7	22.58%			
	Non-smokers	M	151	44.94%			
		F	296	54.21%			
	Ex-smokers	M	19	35.18%			
		F	6	54.54%			

Discussion

The relationships of smoking habits of (1231) outpatients undergoing endoscopy, the present work demonstrated that (284) was current smokers, (882) was non-smokers and (65) was ex-smokers.

The results indicated that increased of non-smokers means especially in females comparative to non-smokers male, smokers and ex-smokers showed increased in normal finding means of three types of smokers. Result showed that (41.28%) of smokers are duodenal ulcer, this result agreement with study done by Alnley *et al.*, (1986) and also agreement with Kato *et al*., (1992) who study the effects of smoking and relation to duodenal and gastric ulcer.

According to gender. The male smokers mean is very high (n=253) compared with (n=31) in female smokers outpatients of study, and non- smokers is (n=336) in males compared with (n= 546) in females, this study summarized and agreement with study done by Wormsley (1987) who found increase frequency of smokers male with female.

Frequency of the prevalence ulcer, cancer and inflammation in smokers compared with non- smokers, ex-smokers is close with other studies like Alnley *et al.*, (1986) and Kato *et al*., (1992).

In this study which has been noted previously in (figure 1), increased of percentage of male smokers ulcers compared

with none and ex- smokers and cancer. When compared smokers with non-smokers, this result indicated that relation of smoking and ulcer especially in male smokers and in non-smokers female recorded ($p< 0.05$).

Our results suggest a much stronger relationship between smoking and gastric cancer this agreed with Hammadi *et al.*, (2009) who showed increase in percentage of male smokers compared with non-smokers and when studded the relation of smoking with our inflammation that showed increases of gastritis in smokers females and doudenitis in non-smokers these relation between smokers and these inflammations recorded ($p< 0.05$) that agreement and summarized with [1].

In Conclusion, we have confirmed in an outpatients upper GIT endoscopic survey an association between smoking and peptic ulcers, gastric cancers, (esophagitis, doudenitis, gastritis) and other cases with a significant response effect for smokers and peptic ulcer especially in man smokers as a result of smoking effect on GIT because the male is more smoking comparative with female, But stay of female non - smokers is significant percentage of ulcer because the effect of other reasons such as drugs , mistake behavior of diet and another causes, in addition to bad prognoses in relation of smoking with inflammation like doudenitis and gastritis in mans and females resulting high percentage in endoscopic findings, this result give strong indicators concentrated to mistakes of diet intake programs and drugs, and effects of social behaviors because there were high percentage of normal finding lead to negative examination of patients.

This article needed deep studies in this line in order to understand more knowledge about relation of smoking and other reasons. Positive response between effects of smoking with ulcers especially in male peptic ulcer. Positive response between upper GIT finding of inflammation such as gastritis &duodenitis in smokers male, females. Found of high percentage of normal males and females especially in smokers and non-smokers case who established examinations of the endoscopy. Understanding of clear relationships between smoking with ulcers and inflammations, must going to save side to left of smoking at soon**.**

Refernces

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