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## Post-eradication therapy of peptic ulcer: A follow-up study

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### Abstract

**Background:** The Peptic ulcer is an ulceration of the mucosa of GIT like lower esophagus, gastric, duodenal, in the jejunum mucosa, may be post-surgical anastomosis. The detection of *Helicobacter pylori* gave a fundamental re-evaluation way for the Causes and treatment of the Ulcer. The strongest evidence linked bacteria called H. pylori and peptic ulcer so that killing of infect bacteria effectively cured the disease and prevented ulcer recurrences.

**Patients Method:** A clinical study was performed in the especial surgical clinic -Kirkuk City, un 89 patients to observe with effectiveness of triple and quadruple combination drugs therapy. Healing ulcer confirm by the Endoscopic and Urease Test, then a post eradication follow-up study was performed for two years, on sixty nine (69) and sixty five (65) of the treated patients respectively. The endoscopy and Urea breath test were carried out to demonstrate the recurrence rate of peptic ulcer. The questionnaire was done include data like patient age, smoking habit, state of stress, drug intake (NSAIDs and any drug for ulcer). The patients with recurrence were again treated by using (Triple eradication therapy) and to be also follow up.

**Results:** Overall rate of recurrence in the first year follow up was 9 of 63 (14.28%), while the recurrence in the second year follow up was 13 of 65 (20.00%). The recurrence was occurred in 19.5% and 37.9% of smokers in the first and second years follow up respectively. On the other hand, recurrence was occurred in 1.9% and 5.5% of nonsmokers. Recurrence of peptic ulcer was also occurred more significantly (14.28 and 25%) after one and two years follow up respectively, in patients used NSAIDs compared with non ulcers. Recurrence was recorded more significantly 23.07% and 22.2% after one and two years follow up respectively, among patients with gastric ulcer compared with those with duodenal ulcer (7.5 and 19.64%). Recurrence showed significantly more rate 18.6 and 37.03% in the first and second years follow up respectively, among patients under stress. Recurrence showed significantly more rate 18.6 and 37.03% in the first and second years follow up respectively, among patients under stress.

**Conclusion:** More than one cause of Peptic Ulcer should be consider (Which is important in the end result of their treatment). Using of Non-Steroidal Anti-Inflammatory Drugs, The state of stress, smoking habit and ulceration Site a clear risk for result of peptic ulcer eradication- therapy.

**Keywords:** Peptic ulcer, recurrence, *Helicobacter pylori*, urea breath test, endoscopy

### Introduction

A peptic(gastric or duodenal) ulcer mean an ulceration in the mucosa of GIT like lower oesophagus, gastric, duodenal, in the jejunum mucosa, may be post- surgical anastomosis operation to the stomach. It is as a form of ulceration which develop for a reason mucosal surface expose to Acid Secretion in the GIT <sup>[1]</sup>. *Helicobacter pylori* is described as an opportunistic pathogen causing gastric ulceration <sup>[2, 3]</sup>. The demonstration of *Helicobacter pylori* give evidence to re-evaluation of management of peptic ulcer (in fact overcoming of infection may effectively Improve the disease and its recurrence) <sup>[4-5]</sup>.

The effect of H.pylori on non-complicated peptic ulcer was definitively confirmed <sup>[6, 7]</sup>, so correlation between *Helicobacter pylori* and their complicated peptic ulcer was investigated <sup>[8]</sup>. *H. Pylori* eradicationally may reduced the rate of ulcer relapsing significantly <sup>[9]</sup>. NIH Consensus Conference in 1996, stating that *H. pylori* on eradicational therapy also reduced the ulcer relapsing complications <sup>[10]</sup>. Using of the Endoscopy, Biopsies from the mucosa of antrum for rapid urease test or Histologic Study like hematoxylin and eosin stain, Breath Test and Serology all or some were used in diagnosis of *H.pylori*. The Patients were definitively infected with +ve rapid urease test or histology, and all were managed by using the

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eradication combination drug therapy of *H. pylori* (a negative rapid urease test or a negative histology) is not excluded the *H. pylori* infection. The <sup>13</sup>C-Urea Breath Test can be done if biopsies were not feasible [11].

### Patients and Methods

A clinical study from July 2013 upto July 2014) was done in the Special Surgical clinic-Kirkuk City, on 89 Patients to observe the triple and quadruple therapy efficacy in managing of peptic ulcer like (Omeprazole cap 20mg BID plus Amoxicillin cap 500mg QID plus Metronidazole 500 mg TID), (Ranitidine tab 150mg BID plus Amoxicillin cap 500mg QID plus Metronidazole tab. 500mg TID), (Omeprazole cap 20mg BID plus Amoxicillin cap 500mg QID plus Clarithromycin tab. 500mg BID) and (Omeprazole cap. 20mg BID plus Amoxicillin cap 500 mg QID plus Metronidazole tab. 500 mg TID plus Clarithromycin tab 500mg BID), in management of peptic ulcer [1]. Confirming of healing ulcer done by the re-endoscopic Biopsy and Urease Test, a following -up was done. Confirm the recurrence by Endoscopy and urea breath test. The questionnaire that was prepared include data like patients age, smoking habit, state of stress, drug intake like (NSAIDs and any drug for ulcer). The patients with relapsing ulcer were re-treated by triple therapy to be follow up again. The Chi square test was performed to calculate the significance among the groups.

### Results

Overall rate of recurrence in the first year follow up was 9 of 63 (14.28%), while the recurrence in the second year follow up was 13 of 65 (20.00%). Table 1 showed that recurrence was occurred in 19.5% and 37.9% of smokers in the first and second years follow up respectively, while 80.5 and 62.1% of smokers showed no recurrence. On the other hand, recurrence was occurred in 1.9% and 5.5% of nonsmokers, while, 98.1% and 94.5% of nonsmokers showed no recurrence in the first and second years follow up respectively. The smokers showed significantly more rate of recurrence than nonsmokers after the first and second years follow up. Recurrence of peptic ulcer was also occurred more significantly (14.28 and 25%) after one and two years follow up respectively, in patients used NSAIDs compared with non-ulcers (table 2). Recurrence was recorded more significantly 23.07% and 22.2% after one and two years follow up respectively, among patients with gastric ulcer compared with those with duodenal ulcer (7.5 and 19.64%) (Table 3). Recurrence showed significantly more rate 18.6 and 37.03% in the first and second years follow up respectively, among patients under stress compared with 2 and 7.9% in patients complained no stress in the first and second years follow up respectively (table 4). Recurrence showed significantly more rate 7 (12.3%) in patients aged below 50 years compared with patients aged above 50 years 2 (5.5%) in the first follow up year, however, patients above 50 years showed more rate of recurrence 10 (58.8%) compared to 3 (6.25%) in patients below 50 years in the second follow up year (table 5).

**Table 1:** Peptic ulcer relapse according to smoke

Cigar ate smoking	+Ve recurrence		-Ve recurrence		Test of Chi square
	first year	second year	first year	second year	
Yes Smoker	8=19.5%	11=37.9%	33=80.5%	18=62.1%	18.65*
not smoker	1=1.9%	2=5.5%	51=98.1%	34=94.5%	
	9 of 63 (14.28%)	13 of 65 (20.00%)	84	52	

\* Significant

**Table 2:** Peptic ulcer relapse according to use of NSAIDs

User of NSAIDs	+ve recurrence		-ve recurrence		Test of Chi square
	First year	second year	First year	Second year	
yes	2=14.28%	1=25%	12=85.72%	3 = 75%	3.55*
not	7=8.8%	12=19.67%	72=91.2%	49=80.33%	
	9	13	84	52	

\*Significant

**Table 3:** Peptic ulcer relapse According to ulcer site

Site of ulcer	+ve recurrence		-ve recurrence		Test of Chi Square
	First Year	Second Year	First Year	Second Year	
stomachulcer	3=23.07%	2=22.2%	10=76.93%	7=77.8%	3.15*
Duodenal ulcer	6=7.5%	11=19.64%	74=92.5%	45=80.36%	
	9	13	84	52	

\*Significant

**Table 4:** Peptic ulcer recurrence according to stress

State of stress	+verecurrence		-ve recurrence		Test of Chi Square
	First Year	Second Year	First year	Second year	
Yes under stress	8=18.6%	10=37.03%	35=81.4%	17=62.97%	15.93*
Not under stress	1=2%	3=7.9%	49=98%	35=92.1%	
	9	13	84	52	

\*significant

**Table 5:** Peptic ulcer relapse according to patients age

Age	+ve recurrence		-ve recurrence		Test of Chi Square
	First Year	Second Year	First Year	Second Year	
Below 50 years	7=12.3%	3=6.25%	50=87.7%	45=93.75%	22.7*
Above 50 years	2=5.5%	10=58.8%	34=94.5%	7=41.2%	
	9	13	84	52	

\*Significant

## Discussion

Rate of recurrence of peptic ulcer in our study was occurred in 9 (14.28%) and 13(20%) in 1<sup>st</sup> and 2<sup>nd</sup> posteradication therapy, this nearly in agreement with Many authors [12-15].

Recurrence was occurred in 8 smoker patients (19.5%) in compare to one (1.9%) among non-smoker in 1<sup>st</sup> posteradication therapy and in 11(37.9%) smoker compared to 2 (5.5%) in nonsmoker in 2<sup>nd</sup> posteradication therapy, the difference was statistically significant. Smoking was considered as one of the potential risk factors of development and recurrence of peptic ulcer disease [16]. The smoking may delay ulcer healing and increase recurrence rate. Cigarettes suppress the immunity, & increased the liability to infection.

The recurrence rate in the duodenal ulcer was more than that recorded in gastric ulcer. Even in those with perforating gastric ulcer also recurrence is better, the same fact was recorded by Crofts *et al.* [17-21].

Recurrence rate was 14.28% in patients used NSAIDs while 8.8% in patient didn't use NSAIDs in the first posteradication therapy and 25% and 19.67% in the second posteradication therapy, these differences were statistically significant. The same results were obtained previously Frezza *et al.*, Chan *et al.*, Silra *et al.*, and Debongnic *et al.* [24-27], they mentioned that that using of NSAIDs increased the peptic ulcer recurrence and alter the outcome result of peptic ulcer treatment.

Rate of recurrence showed significantly more 18.6 and 37.03% in the first and second years follow up respectively, among patients under stress compared with 2 and 7.9% in patients complained no stress in the first and second years follow up respectively, the high incidence of peptic ulcer and its rate of recurrence post-therapy was also mentioned by The U S department of Health and Human Services [28]. Stress is one of the causative agent of the ulcer diseases, & its associated with treatment recurrence [28-29].

Recurrence showed significantly more rate 7 (12.3%) in patients aged below 50 years compared with patients aged above 50 years 2 (5.5%) in the first follow up year, however, patients above 50 years showed more rate of recurrence 10 (58.8%) compared to 3 (6.25%) in patients below 50 years in the second follow up year.

This was in agreement with US department of health and human services [28] who demonstrated that stress was the most likely cause ulcer was highest among person aged 18-24 years old and among persons with low incomes.

## Conclusion

Multi-a etiology of the ulcer should be consider post therapeutically. NSAIDs using of, State Stress, habit of smoke habit &the ulcer location a risk for outcome result of eradication treatment of peptic ulcer.

**Conflict of interest:** The authors declare that they have no known competing financial interests or personal

relationships that could have appeared to influence the work reported in this paper.

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