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PREVALENCE OF H.PYLORI IN FUNCTIONAL DYSPEPSIA IN ALCOHOLICS AND NON-ALCOHOLICS

Surgery

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ABSTRACT

Introduction: Functional dyspepsia is a universal problem that contributes to significant morbidity. Alcohol, in conjunction with H.pylori infection, presents as .functional dyspepsia, almost incurable to treatment. Here we attempt to establish this relationship between the nature and quantum of alcohol with the presence or absence of H.pylori infection.

Materials & methods: Patients attending surgical outpatient department who fulfilled the ROME III B criteria were included in the study. They underwent an upper GI endoscopy with rapid urease testing and antral biopsies for H.pylori. Presence or absence of H.pylori was tabulated against the nature and quantum of alcohol consumed and the results analysed.

Results: Out of 35 alcoholics with functional dyspepsia, only 10 were positive for H.pylori. Out of 35 non-alcoholics with functional dyspepsia, 29 were positive for H.pylori. People who consumed more than 120gms of alcohol had no infection with H.pylori.

Conclusion: Functional dyspepsia is common in alcoholics and in people infected with H.pylori. H.pylori prevalence is higher in non-alcoholics than in moderate drinkers on a regular basis which is found to be statistically significant. In the severe alcoholics with binge drinking habits the H.pylori prevalence was higher because of the concentrated alcohol, breaking the mucosal barrier and increasing the H.pylori penetration into the mucosa and reduced immunogenicity of the individual.

KEYWORDS:

INTRODUCTION

Dyspepsia in Greek means indigestion. Functional Dyspepsia (FD) means dyspepsia without any organic cause.[1] FD is widely prevalent in Asia compared to western countries because of the food habits, culture, environmental and social factors.[2] Exact cause of HD is still a mystery under evaluation of the causative factors, H.pylori is considered as one of the commonest causes for FD.[3] Alcoholics are more prevalent in India, There are not many studies available to reveal the exact correlation between H.pylori, alcoholics and FD.

OBJECTIVE

The aim of this study is to bring the triangular relationship of alcoholic addiction with H.pylori prevalence presenting as functional dyspepsia.

MATERIALS AND METHODS

The study was conducted at MGMCRI, Pondicherry as a comparative study from June 2014 to May 2017. Alcoholics and their severity assessed by DSM- questionnaire.

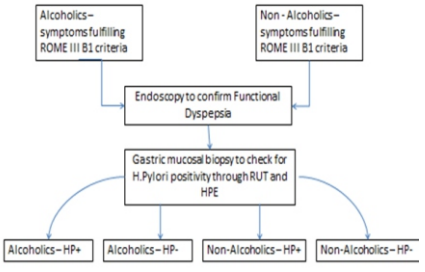
INCLUSION CRITERIA

1. Patients coming to MGMCRI with Functional Dyspepsia symptoms fitting with Rome III BI criteria.

EXCLUSION CRITERIA

1. Patient with structural disease.
2. Gall bladder disease
3. H/O recent intake of NSAID or acid suppressing drugs.

METHODOLOGY



OBSERVATION AND STUDY ANALYSIS METHOD:

This comparative study was approved by Human Ethics Committee. This comparative study comprised of 70 patients who satisfied Rome III B1 criteria. They were subjected to USG abdomen to rule at Gall bladder and pancreatic pathologies. Then they were subjected to upper G.I endoscopy. Four gastric mucosal biopsies were done from the pyloric antrum. Two of them were tested in the urease broth by the Rapid urease test (RUT).The colour change from yellow to pink was considered positive (Fig 1); rest of the 2 specimens were sent in formalin containers to pathology department and histopathological examinations was done. The presence of the gram negative eosin stained bacilli was considered positive (Fig 2). Either the RUT biochemical test or the HPE test was considered positive.

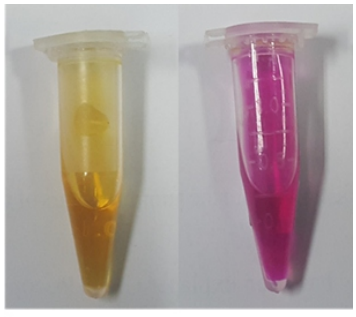


Fig 1: RUT (Control & test)

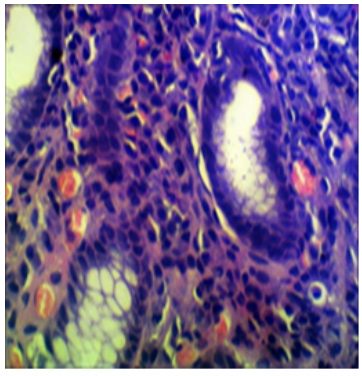


Fig 2: Histopathology

The severity of FD symptoms was graded with modified Glasgow Dyspepsia severity using questionnaire (MGDSS).The H.pylori positivity among the alcoholics and non alcoholics was standardised and compared statistically using National institute of Alcohol Abuse and Addiction Questionnaire.

Among the total 35 non alcoholics and the 35 alcoholics in our study, the H.pylori prevalence was evaluated, with regards to sex, age and

socio economic status. These were no significant sex wise preference observed. Among the age wise prevalence, the rate of occurrence was found to be more in the age group below 50 years while the H.pylori prevalence rate was the least in the age group above 50 years.

Coming to the sex and occupational distribution, students formed the majority(30%).The majority belonged to the low socio economic status group(55%).This could be explained due to unhygienic food practises and consumption of food with lower content of vitamin C and other antioxidants.

On comparing the FD symptomatology the scoring was more in extreme age groups and higher alcohol consumption groups.

The quantity of alcohol consumed was a very difficult data to be standardised among the alcoholics. The types of alcohol was graded-
1. Beer-less than 5%
2. Whisky-6-15%
3. Combination drink-20-40%
4. Spirit or Native drinks-more than 40%

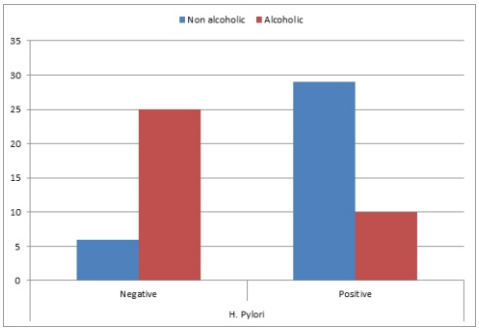
The conversion of the volume in ml or fluid ounce (29.58ml) was done by multiplying 28.41 ml with 0.785 gram. A standard drink is 12 fl oz regular beers or 5 fl oz. of distilled spirit, which has an alcohol content of 12 grams in 0.5 fl oz.

The frequency of drinking means consuming a particular measure within a time frame. In this we must know regular drinking and Binge drinking. Regular drinkers were those who take beer more often, in amounts not exceeding 25 grams day or 75 to 175 grams/week. Binge drinkers consume drinks with stronger concentrations of alcohol (>40 grams/day) in large amounts occasionally, but in an irregular frequent fashion. The analysis of the comparison between H.pylori positivity and alcohol drinking exactly coincided with the German population study, done by Kuepper et al in Heidalberg, Germany. In our study also the mild and the medium drinkers who consuming beer or whisky on a regular basis showed a lower H.pylori prevalence and lower MGDSS score.

RESULTS

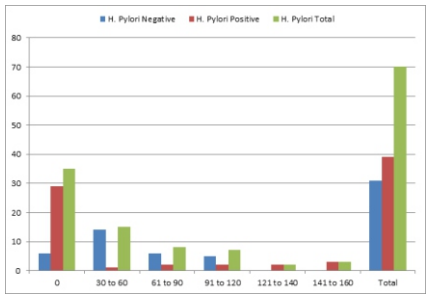
PREVALENCE OF H.PYLORI IN ALCOHOLICS AND IN NON -ALCOHOLICS

Type	H. Pylori			Statistical Inference
	Positive	Negative	Total	
Alcoholic	10	25	35	X^2 = 20.902 DF = 1 0.000<0.05 significant
Non Alcoholic	29	6	35	
Total	39	31	70	



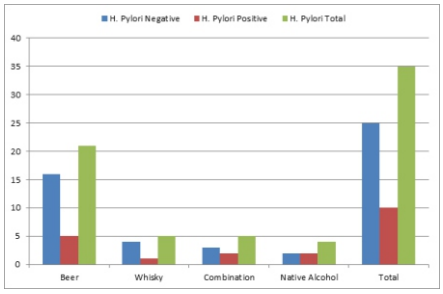
PREVALENCE OF H.PYLORI BASED ON QUANTITY

ALCOHOL CONSUMED/DAY IN GRAMS	H.PYLORI			
	NEGATIVE	POSITIVE	TOTAL	STATISTICAL INFERENCE
30 TO 60	14	1	15	X^2= 34.199 DF=4 0.000<0.05 SIGNIFICANT
61 TO 90	6	2	8	
91 TO 120	5	2	7	
121 TO 140	0	2	2	
141 TO 160	0	3	3	
TOTAL	25	10	35	



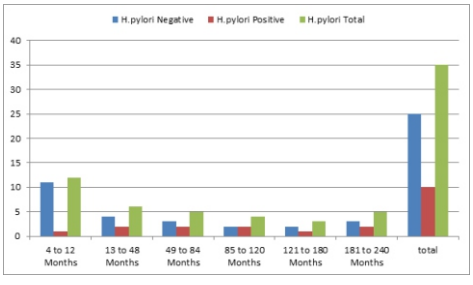
PREVALENCE OF H.PYLORI BASED ON TYPE OF ALCOHOL

Type of Alcohol	H. Pylori			Statistical Inference
	Negative	Positive	Total	
Beer	16	5	21	X2=22.253 DF=3 0.000<0.05 Significant
Whisky	4	1	5	
Combination	3	2	5	
Native Alcohol (Arrack)	2	2	4	
Total	25	10	35	



PREVALENCE OF H.PYLORI BASED ON DURATION OF ALCOHOL CONSUMED

Duration in Months	H. Pylori			Statistical Inference
	Negative	Positive	Total	
4 to 12 Months	11	1	12	X^2 = 4.048 DF = 5 0.542>0.05 Not significant
13 to 48 Months	4	2	6	
49 to 84 Months	3	2	5	
85 to 120 Months	2	2	4	
121 to 180 Months	2	1	3	
181 to 240 Months	3	2	5	
Total	25	10	35	



CONCLUSION

1. H.pylori prevalence is higher in non alcoholics than in moderate drinkers on a regular basis which is found to be statistically significant.
2. In the severe alcoholics with binge drinking habits the H.pylori prevalence was higher because of the concentrated alcohol, breaking the mucosal barrier and increasing the H.pylori penetration into the mucosa and reduced immunogenicity of the individual.

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