

A STUDY OF ASSOCIATION OF
HELICOBACTER PYLORI AND CHOLELITHIASIS**Dr Gudepu
Kanaka Durga**

Postgraduate Resident, Department Of General Surgery, Shridevi Institute Of Medical Sciences And Research Hospital

**Dr Narendra
Kumar L ***

Professor & Hod, Department Of General Surgery, Shridevi Institute Of Medical Sciences And Research Hospital *Corresponding Author

Dr Chethan L

Associate Professor, Department Of General Surgery, Shridevi Institute Of Medical Sciences And Research Hospital

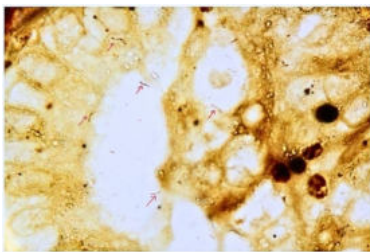
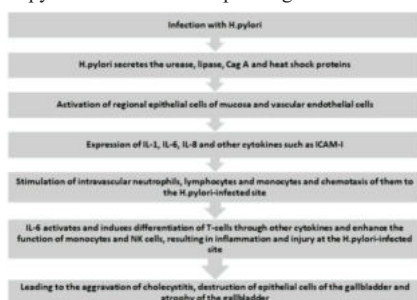
ABSTRACT **Background:** Aim was to study the association of H. Pylori infection and cholelithiasis. **Method:** The study was conducted for 5 months and is a descriptive cross-sectional study using 40 patients. RUT is used for diagnosis of H. pylori infection and abdominal ultrasonography for detection of gallstones. **Result:** In this study 45 % of total patients were in the age group of 21-30 years and 25% of patients in the 31-40 years group. 24 patients in study were male (60%) and 16 were females (40%). Incidence of H. pylori infection was maximum in 2nd and 3rd decade of life and less in patients with age <20 years. In present study 14 patients were detected positive by RUT method representing 35% patients with H. pylori infection show association with cholelithiasis. **Conclusion:** H. pylori infection has positive association with cholelithiasis. If eradicated, may lead to prevention of gallstones.

KEYWORDS : Cholelithiasis, H. pylori, RUT, cholecystitis.**INTRODUCTION****Helicobacter Pylori (h. Pylori)**

H. pylori the etiologic agent of acute and chronic gastritis, peptic ulcer disease and two forms of gastric cancer. Up to 80% of gastric carcinomas and 92% of low-grade gastric mucosa-associated lymphoid tissue lymphomas are H. pylori associated. Helicobacter pylori (H. pylori) infection is very common throughout the world, occurring in 40-50% of the population in developed countries and 80-90% of population in developing regions. Since the discovery of H. pylori by Marshall and Warren in 1983, overwhelming evidence has accumulated to confirm that H. pylori infection plays a significant role in the development of chronic active gastritis and peptic ulcer.

Gallstones

Gallstones are one of the most prevalent digestive disorders requiring inpatient treatment, as well as a major public health concern worldwide. Gallstone formation may be associated with a complex interaction of genetic and environmental factors such as female sex, family history, and ethnicity. Lifestyle and some other metabolic disorders also affect gallstone formation, for example, high alcohol consumption, hyperlipidemia, fatty liver, and obesity. In addition, the effect of the gastroduodenal environment is thought to play an important role in the presence of gallstones, and Helicobacter pylori are believed to be a mediating factor for gastric and extra gastric disease.

**Figure 1:** H. pylori infection in metaplastic gallbladder mucosa.**Figure 2:** Pathophysiology of H. pylori infection and cholecystitis.

Aim of the present study was to conduct a cross-sectional study to investigate the correlation between H. pylori infection and gallstones in an attempt to understand the pathogenesis of gallstones and to develop better therapeutic and preventive strategies for this disease.

Methodology

- Study design:** This is a descriptive cross-sectional type of study using 40 patients diagnosed with presence of gallstones meeting the inclusion criteria.
- Duration of the study:** 5 months
- Source of Data:** Patients diagnosed with gallstones using ultrasonography at SIMS&RH
- Inclusion criteria:** Between 18-60 years with gallstones detected
- Exclusion criteria:** Patients below 18 years of age and patients not consenting for participation in the study will be excluded.
- Sampling method:** Purposive sampling method
- Sample size:** 40 patients
- Method of collection of data:** The patient with clinical suspicion of gallstone disease attending OPD at SIMS&RH at Tumkur will be subjected to abdominal ultra sonography for the confirmation of diagnosis. 40 such patients with ultra sonography proven gallstone disease will be chosen and included in the study after verbal consent. Subsequently they are tested for the presence of H. Pylori using Rapid Urease Test.

Examination

RUT - Rapid urease test (RUT), with its high sensitivity and specificity, is considered to be a quick and reliable test for the initial diagnosis of H. pylori infection and simple and inexpensive.

Gallstones in the gallbladder and bile duct were diagnosed by abdominal ultrasound. They were diagnosed by the presence of highly reflective echoes from the anterior surface of the stones or movement upon postural change, marked posterior acoustic shadowing.

RESULT ANALYSIS

In this study 45 % of total patients were seen in the age group of 21-30 years. 25% of total patients were seen in the age group of 31-40 years. 24 patients in present study were male (60%) and 16 were females (40%). Incidence of H. pylori infection was maximum in the 2nd and 3rd decade of life and was less in patients with age <20 years. In present study 14 patients were detected positive by RUT method which means 35% patients with H. pylori infection show association with cholelithiasis.

Table 1: Age wise distribution of cases in study group.

AGE (YEARS)	NO. OF CASES	PERCENTAGE
18-20	2	5

21-30	18	45
31-40	10	25
41-50	6	15
51-60	4	10
TOTAL	40	100

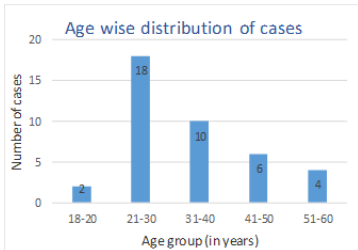


Chart 1: Age wise distribution of cases.

Table 2: Sex wise distribution of cases in study group.

SEX	NO. OF CASES	PERCENTAGE
Male	24	60
Female	16	40
TOTAL	40	100

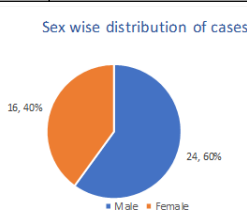


Chart 2: Sex wise distribution of cases.

Table 3: Presence of Cholelithiasis wise distribution of cases in study group.

PRESENCE OF CHOLELITHIASIS	NO. OF CASES	PERCENTAGE
Present	40	100
Absent	0	0
TOTAL	40	100

Table 4: RUT wise distribution of cases in study group.

RUT	NO. OF CASES	PERCENTAGE
Present	14	35
Absent	26	65
TOTAL	40	100

Cases of Cholelithiasis with RUT Positive

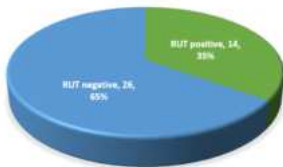


Chart 3: Cases of cholelithiasis with RUT positive.

DISCUSSION

Gram-negative *Helicobacter pylori* is frequently linked to stomach cancer and peptic ulcer disease. Additionally, cholelithiasis, cholecystitis, gallbladder polyps, and biliary tract malignancies have all been linked to *H. pylori* infection. It is yet unknown, nevertheless, how *H. pylori* and disorders of the gallbladder and biliary tract are related. Reviewing and summarizing the most recent research on the relationship between *H. pylori* and biliary tract and gallbladder disorders, as well as how it affects clinical therapy, is our goal. We discovered a correlation between cholelithiasis and *H. pylori* infection. Although there have been shown causal correlations, prospective longitudinal investigations are necessary to determine whether *H. pylori* and gallbladder diseases are related.

REFERENCES

1. Kuo CH, Wu DC, Lu CY, Su YC, Yu FJ, Wu YCLIC, et al. The media of rapid urease test influence the diagnosis of *Helicobacter pylori*. *J Hepato Gastroenterol*. 2002; 49:1191-4.
2. Abadi ATB, Rafiei A, Ajami A, Hosseini V, Taghvaei, Jones KR, et al. *H. pylori* homB,

but not cagA, is associated with gastric cancer in Iran. *J clin Microbiol*. 2011;49(9):3191-7.

3. Tzeng JE, Lin YL, Chung SM, Chu YT. Comparison of four diagnostic methods for *H. pylori*. *Tzu Chi MED J*. 2005; 17:339-43.
4. Jason KR. In Patient with Peptic Ulcer Disease, what is the most accurate Diagnostic Test to Determine the Presence of *Helicobacter pylori* prior to Treatment? School of Physician Assistant Studies. Available at: <http://commons.pacific.edu/pa/163>. Accessed 24 November 2013.
5. Brett M, Barker DJP. The World Distribution of Gallstones. *Int J Epidemiol*. 1976;5(4):335-41.
6. Chen DF, Hu L, Yi P, Liu WW, Fang DC, Cao H. *H. pylori* exist in the gall bladder mucosa of patients with chronic cholecystitis. *World J Gastroenterol*. 2007;13(10):1608-11.
7. Islam MDU, Rahman SHZ, Shamsuzzaman SM, Muazzam N, Kibria SG, Hossain MT. A comparative study among Different Invasive methods for the of *Helicobacter pylori*. *Faridpur Med Col J*. 2010; 1:21-4.
8. Vijaya D, Chandrashekar N, Nagarantnamma T, Shivarudrappa AS. Simple stain for *Helicobacter pylori*. *J Clin Diag Res*. 2012;6(4):664-6.
9. Attaallah W, Yener N, Ugurlu MU, Manukyan M, Asmaz E, Ozdemir AA. Gallstones and Concomitant Gastric *Helicobacter Pylori* Infection. *Gastroenterol Res Pract*. 2013;4.
10. Takahashi Y, Yamamichi N, Shimamoto T, Mochizuki S, Fujishiro M. *Helicobacter pylori* infection is positively associated with gallstones: large scale cross-sectional study in Japan. *J Gastroenterol*. 2014;49(5):882-9.
11. Jemilohun AC, Otegbayo JA, Ola SO, Oluwasola AO, Akere A. Diagnostic accuracy of rapid urease test for the diagnosis of *Helicobacter pylori* gastric biopsies in Nigerian with dyspepsia. *African J Clin Exp Microbiol*. 2011;12(2).