

The Significance of Helicobacter Pylori Infection in Uraemic Patients

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ABSTRACT:

BACKGROUND:

Helicobacter Pylori play an important role in pathogenesis of gastritis and peptic ulcer disease in uraemic patients

OBJECTIVE:

To assess the prevalence of helicobacter pylori infection in uraemic , and to find the relationship endoscopic findings and the H. pylori infection

PATIENTS AND METHODS :

Forty patient with chronic renal failure were studied and compared with 38 patients with dyspepsia with out any known history of renal disease.

All underwent upper gastrointestinal endoscopy and antral biopsies were taken for detection of H.pylori infection using the rapid urease test as goldstandard for confirmation of the infection

RESULT:

The prevalence of H.pylori infection was 32.5% in uraemic patient and abnormal endoscopic finding were detected in 70% of the patients with abnormal endoscopic findings

CONCLUSION:

The prevalence of H.pylori in uraemic patients is lower than in patients with the normal renal function , but the difference is not significant statistically

KEY WORDS: chronic renal failure . urease test . hemodialysis

INTRODUCTION:

Helicobacter pylori , (H...pylori) a bacteria first described in 1984 and since that time was linked with chronic gastritis and peptic ulcer disease (1-2)

It is known that H..pylori play an important role in the pathogenesis of chronic gastritis and peptic ulcer disease in general population

Gastrointestinal diseases are frequently encountered in patients with chronic renal failure and it is expected that any gastrointestinal complication that occur in these patients^(4,5,6) . although hemorrhagic mucosal lesion of digestive tract have been one of most common complications in the patients with chronic renal failure, quite few reports are available regarding the prevalence of H, pylori infection in uraemic patients^(7,8,9)

Shousha and his colleagues find that patients with chronic renal failure who were undergoing dialysis

were recently shown to have low prevalence of duodenal H. pylori colonization in spite of high incidence of gastric metaplasia^(10,11)

Kang et al concluded that H.pylori infection was less common in uraemic patients compared with healthy volunteers and patients with functional dyspepsia but this difference was statistically not significant⁽¹²⁾

The objective of the study are

1. To assess the prevalence of H.pylori infection using rapid urease test
2. To find the relationship between H.pylori infection and the endoscopic findings
3. To evaluate the correlation between blood urea level and H .pylori infection

PATIENTS AND METHODS:

Forty patients with chronic renal failure were enrolled in this study. Eighteen(18) were on maintenance hemodialysis and 22 were on conservative treatment . the age range was (21_70) years with mean a mean of 42.1 years. Thirty eight patients with out any known renal disease were use as control group.

A special form was filled for each patient which

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included (age, sex, cause and duration of renal failure, type of dialysis, upper GI symptoms i.e. nausea, vomiting, anorexia, epigastric pain, hyperacidity, heartburn, abdominal fullness)

All medications were reviewed prior to endoscopy. None of patients had alcohol ingestion with or treatment with drugs that might have caused gastric mucosal damage (i.e. non-steroidal anti-inflammatory drugs or steroids) and none was smoker.

All patients underwent upper GI endoscopic examination using (Olympus O2) each patient received topical throat anesthetic spray. Biopsies

were taken from antral mucosa and rapid urease test was performed to all patients. This test has a sensitivity of 95% and specificity of 98% for detection of *H.pylori*. Rate comparisons were made with Chi-square test.

RESULT:

The prevalence of *H.pylori* infection was 32.5% in uremic patients which is lower than that in the control group (37%), but the difference was not statistically significant. Ten percent (10%) of patients on hemodialysis had positive urease test and 22.5% of patients on conservative treatment had positive urease test as shown in table(1)

Table (1) :The prevalence of helicobacter pylori infection in uremic patients using rapid urease

Rapid urease test	Uremic patients maintained on hemodialysis	Uremic patients maintained on conservative treatment	Total
positive	4(10)	9(22.5)	13(32.5%)
negative	14(35)	13(32.5)	27(67.5%)
Total	18(45)	22(55)	40

All differences between the two groups were statistically not significant, P value (> 0.05) using chi-square test.

Abnormal endoscopic findings were detected in 28 the patients (70%) and these included the following :

- _ Antral gastritis in 12 patients (30%)
- _ Duodenitis in 6 patients (15%)
- _ Duodenal ulcer was found in 6 patients (15%)
- _ Edematous pylorus in 4 patients (10%)

H.pylori infection was found in 25% of the patients with abnormal endoscopic findings Table (2)

Table (2):Relationship between abnormal endoscopic finding and H.pylori infection

Abnormal endoscopic finding	Rapid urease test positive	Rapid urease test negative
Antral gastritis	4(10%)	8(20%)
Duodenitis	3(7.5%)	3(7.5%)
Duodenal ulcer	2(5%)	4(10%)
Total	9(22.5%)	15(37.5%)

All differences between the two groups were statistically not significant P value (>0.05) using Chi-square test

There was no significant correlation between the level of blood urea and presence of *H.pylori* infection Table (3)

Table(3):Relationship between the H.pylori infection and the level of blood urea

Level of blood urea	Rapid urease test positive	Rapid urease test negative
<100	3(7.5%)	7(17.5%)
101-199	6(15%)	11(27.5%)
>200	4(10%)	9(22.5%)
Total	13(32.5%)	27(67.5%)

All differences between the two groups were statistically not significant P value (>0.05) using Chi-square test

DISCUSSION:

Among the 40 patients with chronic renal failure, 18/40 on hemodialysis program and 22/40 on conservative treatment .the prevalence of H.pylori infection is 32.5% which is slightly lower the control group 37%.

This low prevalence of H.pylori gastritis in chronic renal failure patients suggest that these patients are less commonly infected than the general population . the reason is not obvious but could be related to wide variety of medications prescribed during the course of their illness including antibiotics

There was no significant relationship between the abnormal endoscopic findings and H.pylori status. This abnormal mucosal changes are related to hyperacidity caused by hypergastrinemia and presence of uraemic toxins and to motility disorders which cause gastro paresis and excessive biliary reflux which caused by increased level of polypeptides hormone involved in modulation of GI motility (cholecystokinin and neurotensin) also electrolyte disturbance and acidosis affect of smooth muscles of the gut directly the higher urea levels in the blood and gastric juice of patients with chronic renal

Failure do not seem to be risk factor for infection with H. pylori⁽¹⁸⁾

CONCLUSION:

The prevalence of H.pylori in uremic patients is lower than in patients with the normal renal function , but the difference is not significant statistically

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