

A Prospective Comparative Study to Assess the Efficacy of Helicobacter Pylori Triple Regime Alone with Addition of Rebamipide with Triple Regime Kit in Eradicating Helicobacter Pylori Infection in Acid Peptic Disease

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Abstract:

Background: Acid Peptic disease, because of its chronicity owe to a significant cost to health care and also paralyse the wellness of an individual. Recently Bacterial Overgrowth of gut is said to contribute much to morbidity of an individual. Since its discovery by Australian scientists, Barry Marshall and Robin Warren, Helicobacter pylori has earned a heroic place in the research field. More than 50 % of the world's population is said to harbor Helicobacter pylori in their upper Gastrointestinal tract. Eradication of Helicobacter pylori is the motto along with prevention of recurrence of peptic ulcers for many physicians, surgeons and gastroenterologists all over the world. Total eradication has been a challenging task for the treating community and thus warrant a perfect holistic regime for the eradication of the helical bacterium and henceforth the disease.

Methods/Design Of The Study:

- Design of the study :- Prospective study
- Material / Selection of Subjects :- The study population consists of 100 patients admitted in the surgical ward diagnosed with Acid Peptic Disease

Results: Inclusion of rebamipide in the standard regime has proved to be superior than standard triple regime in views of eradication of H pylori, patient satisfaction and restoration of gastrointestinal integrity.

Keywords: Helicobacter pylori triple regime kit, Rebamipide

I. Background

Acid Peptic disease, because of its chronicity owe to a significant cost to health care and also paralyse the wellness of an individual. Recently Bacterial Overgrowth of gut is said to contribute much to morbidity of an individual. Since its discovery by Australian scientists, Barry Marshall and Robin Warren, Helicobacter pylori has earned a heroic place in the research field. More than 50 % of the world's population is said to harbor Helicobacter pylori in their upper Gastrointestinal tract. Eradication of Helicobacter pylori is the motto for many physicians, surgeons and gastroenterologists all over the world. Total eradication has been a challenging task for the treating community and thus warrant a perfect holistic regime for the eradication of the helical bacterium and henceforth the disease and its complications. A conventional regime constituting two antibiotics and one proton pump inhibitor which works by killing the bacteria and reducing the infection burden and by blocking the acid production in stomach is prescribed universally^(1,2). In this study, we aimed to compare the efficacy of helicobacter pylori standard triple regime kit against helicobacter pylori triple regime kit with rebamipide in eradicating helicobacter pylori infection in acid peptic disease. Our study focussed both on eradication of H pylori and also restoration of gastrointestinal integrity at the same time to improve the quality of patient's life. This is the first ever documented study for inclusion of rebamipide in H pylori kit.

II. Methods/Design Of The Study:

- Design of the study :- Prospective study
- Material / Selection of Subjects:- The study population consists of 100 patients admitted in the surgical ward diagnosed with acid peptic disease. Ethical clearance obtained from the Institutional Ethical committee.
- Inclusion criteria :
Patients with acid peptic disease with positive stool antigen test for helicobacter pylori and erosions/ulcer findings in Upper Gastrointestinal endoscopy.

• **Exclusion Criteria :**

Patients with malignant peptic ulcers
Negative stool antigen test

• **Study Procedure :**

Stool antigen test was done at the onset of the treatment and on alternate days in both groups till the end of the treatment. Upper Gastrointestinal endoscopy was done at the commencement, 7th day and end of the treatment in both groups and the results documented.

GROUP A : ACP REGIME	GROUP B : ACPR REGIME
Helicobacter pylori triple regime kit Amoxicillin 750 mgs twice daily, Clarithromycin 500 mgs twice daily & Pantoprazole 40 mgs twice daily	Helicobacter pylori triple regime Amoxicillin 750 mgs twice daily, Clarithromycin 500 mgs twice daily, Pantoprazole 40 mgs twice daily & Rebamipide 100 mgs thrice daily
14 days therapy	14 days therapy

Primary outcome is measured by the eradication rate of Helicobacter pylori and the period of eradication of H.pylori through stool antigen test

Secondary outcome is measured by patient satisfaction and free of symptoms subjectively and restoration of gastrointestinal integrity in Upper gastrointestinal endoscopy objectively.

III. Results

In all the 100 subjects, Stool antigen test was done at the onset of the treatment and on alternate days till the end of the treatment and UGI scopy was done at the commencement , 7th day and end of the treatment . Negative Stool antigen test was considered as H pylori eradication and the period of eradication in both groups were documented. Also, Endoscopy was done to assess the restoration of gastro-intestinal integrity. Patients were randomized such that the size of ulcers were equally distributed in both groups ranging from < 1 cm to > 2cms. Our study focussed both on eradication of H pylori and also restoration of gastrointestinal integrity at the same time to improve the quality of patient's life. Triple therapy with ACP regime eradicated h pylori in 85 % patients in seven days and 90 % in 14 days. Triple regime healed gastric ulcers of < 1 cms in 7 days and >1 and < 2 cms in 14 days. But ulcers larger than 2 cms are not healed though H.pylori is eradicated. But in group B, ACPR REGIME group enjoyed the complete healing of ulcer with restoration of gastrointestinal integrity in 92 % patients in 1 week and 94 % in 14 days. It's also note worthy that patients enjoyed the privilege of being symptom free ,only after the restoration of gastro-intestinal integrity.

IV. Discussion

A cochrane meta analysis of 55 studies concluded that 14 days is the optimal duration of triple therapy, which achieved Helicobacter pylori eradication rate of 81.9 %., whereas 7 days attained an eradication rate of 72.9 %(3). Then sequential therapy came into light and one Cochrane metaanalysis concluded that neither sequential therapy nor standard triple therapy achieved optimal efficacy (> 90 % eradication rate) (4). Riccardo Urgesi et al has concluded that no magic bullet has emerged for H.pylori eradication(5). Though various studies have been published comparing the eradication rate of various regimes, Higuchi et al studied that even after eradication of H pylori , large gastric ulcers fail to heal rendering the patient symptomatic (6). As the evidence for casual relationship between H.pylori and gastric cancer is over-whelming and world health organization has declared H.pylori as a carcinogen, the need for the complete healing of ulcer along with H.pylori eradication is a must. Many studies have emphasized that residual inflammation in the lesser curvature of the corpus after H pylori eradication is a risk factor for the development of metachronous gastric cancer(9,10). So we planned a study focusing both on eradication of H pylori and also restoration of gastrointestinal integrity at the same time to improve the quality of patient's life. Both Negative stool antigen test and patient compliance were included in the study. Also the restoration of gastro-intestinal integrity with complete healing of ulcer is taken as secondary outcome. We planned to include the gastro-protective drug Rebamipide , which is a novel drug with anti-oxidant properties and helps in combating the oxidative stress caused by the bacteria on the gastro-intestinal integrity. It is also proved to have anti-bacterial effects against H pylori (7). Rebamipide induces down-regulation of Cag-A induced Phospholipase D1 expression via inhibition of NFκB pathway (10). As we know that NFκB pathway forms the main mode of pathogenesis of gastric ulcer after inflammatory stress, free radicals induced stress and physical stress, rebamipide by its inhibitory property of NFκB pathway improves the quality of life of the patient by ameliorating patient symptoms and preventing the tumorigenesis. Tomoari Kamada et al concluded that Rebamipide improves chronic inflammation in the lesser curvature of the corpus after Helicobacter pylori eradication in his multicenter study(8). Our study focussed both on eradication of H pylori and also restoration of gastrointestinal integrity at the same time to improve the quality of patient's life. This is the first ever

documented study for inclusion of rebamipide in H pylori kit. In our study , we have proved that inclusion of rebamipide in the group B subjects had a significant primary outcome of eradication of H pylori and secondary outcome of patient satisfaction and restoration of gastrointestinal integrity. It's also seen that patients enjoyed the privilege of being symptom free only after the restoration of gastro-intestinal integrity.

V. Conclusion

Inclusion of Rebamipide in the standard triple regime has proved to be superior than standard triple regime in views of eradication of H pylori, patient satisfaction and restoration of gastrointestinal integrity and prevention of recurrence.

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