Helicobacter Pylori Clearance and Eradication with Triple Therapy in Duodenal Ulcer Patients

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Abstract

Triple therapy was given to 49 chronic helicobacier pylori positive chronic duodenal ulcer cases to see its efficacy in H. pylori clearance, eradication and ulcer healing, H. pylori clearance and eradication rates at week 5 and 8 were 87.8% and 81.5% while ulcer healing rates 68.2% and 81.5% respectively. Seven (18%) cases failed to clear H. pylori and were classified as non-responders. Histologically 60% showed post-treatment regression of gastritis. Tolerance to drugs was excellent with a good compliance rate (JPMA 45: 2,1995).

Introduction

Since the introduction of helicobacter pylori as one of the major etiological factors in duodenal ulcer disease, lot of work has been done on the effect of its clearance and eradication on duodenal ulcer healing[1-4]. Though the sensitivity of H. pylon to various bismuth compounds is well established[5] but its eradication rates are low (20%)[6-8]. Mono-therapy with other antirnicrobials also has a low eradication rate[9]. Dual therapy either with two antibiotics or an antibiotic with a bismuth salt improves eradication rates to 48-74%[1,8], while triple therapy (bismuth salt, metronidazole and another antibiotic) escalates these figures to 65-94%, with an almost 90% ulcer healing rate[3,10,11]. Metronidazole resistance, patient compliance and adverse effects are likely to alter the response[12,14]. In the present study. efficacy of triple therapy in clearance and eradication of H. pylori and duodenal ulcer healing was evaluated.

Patients and Methods

Forty-nine consecutive duodenal ulcer cases who had previously received various H2 receptor antagonists orproton pump inhibitors, presenting with a duodenal ulcer relapse were included in the study. All medications were stopped for 24 hours and a fresh endoscopy without sedation was done in all cases. At endoscopy apart from confirming a chronic ulcer, 3 antral biopsies were taken 5 cms around the pylonis. One biopsy was picked with a disposable needle and embedded in the CLO gel prepared locally[15] while 2 others were placed in 10% buffered formalin for assessment of histologic gastritis and H. pylon colonization[16]. Only those cases were given triple therapy whose CLO test turned positive within 15 minutes of embedding.

Triple therapy consisted of tab colloidal bismuth subcitrate (De- Nol) x QID for 4 weeks, metronidazole (400 mg) TDS and amoxicillin (500 mg) TDS for 15 days. Endoscopy was repeated at weeks i and 8 and on both occasions 2 antral biopsies were taken for CLO test and histology. Histological gastritis and H. pylon colonization were defined using cntena described elsewhere[15]. Ulcer healing, compliance and side effects were noted at each of these 2 visits. H. pylon clearance and eradication were defined as negative CLO and histology at weeks 5 and 8 respectively[17]. Those who

failed to clear H. pyiori at week 8 were defmed as non-responders.

Results

A total of 49 endoscopically confirmed chronic duodenal ulcer cases were included inthe study. Therewere 42 males and 7 females with a mean age of 37 years. All patients had a positive CLO test at the entry into the trial. Antral biopsy in majority (73%) showed chronic atrophic gastritis with activity and histological evidence of H. pylon colonization. At week 5, eight patients were lost to followup leaving 41 cases for analysis. H. pyion clearance rate was 87.8% (36/41). At week 8, three more patients were dropped from the trial [lost to followup (1), intractable pain (1) and pyloric stenosis (1)] leaving 38 patients for analysis. H. pylon eradication rate was 8 1.5%. Seven (18%) patients failed to clear H. pylori at week 8 and were therefore classified as non-responders. Ulcer healing rates were 68.2% and 81.5% at week 5 and 8 respectively. Histologically 60% patients showed improvement as seen by regression of atrophic gastritis with activity to superficial gastritis without activity. Only one patient developed ulceration of mouth, but was able to complete the trial as per protocol. All others tolerated the drugs well. Compliance was not a problem in this study; though majority complained of a delayed pain relief (7-10 days).

Discussion

Though a wide variety of tests are available for the diagnosis of H. pylori infection[18,19] but CLO test is the most rapid and reliable method[20]. Response to therapy using bismuth compounds for H. pylori is well established[3,6,7,10,16,21] and side effects like neurotoxicity can be prevented by prescribing low dose for a short time[22]. Using monotherapy the H. pylon clearance rate was 77%[16] which rose to 88% following triple therapy in the present study, indicating a better response with a combination therapy. Aneradicationrate of 81% is similarto 89%reportedby others[23]. With high endemicity of H. pylon in our population, [21,24], an eradication rate of 81% is very encouraging. The therapy was highly effective in duodenal ulcer healing with 81% ulcer healing at 8 weeks. Similar figures were reported with various H2 receptor antagonists[25]. Ulcer healing was closely associated with H. pylori clearance in this study. Lack of H. pylori clearance in 18% cases may indicate a possible amoxicillin or metronidazole resistance due to indiscriminate use of these drugs in our population. As compliance and side effects are not a major problem in our setup, efforts should be made to identify yet another antibiotic for the treatment of H. pylori using culture and sensitivity techniques.

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References

1. Marshall, B. J., Goodwin. C. S., Warren, JR. et al. Prospective double-blind trial of duodenal ulcer relapse after eradication of campylobacter pylori. Lancet, 1988;2: 1437-41.
2. Tytgat, G.N.J. and Raws, E.AJ. Campylobacter pylon and its role in peptic ulcer disease. Gastroenterol. Clin. North Am., 1990;19:183-96.
3. Rauws, E.A.J. and Tytgat, G.N.J. Cure of duodenal ulcer associated with eradication of helicobacter pylori. Lancet, 1990;335:1233-35.

4. Coghlan, J.G., Gilligan, D., Humphries, H. et a!. Campylobacter pylon and recurrence of duodenal ulcers, a 12 month followup study. Lancet, 1987;2: 1109-11
5. McNulty, CA., Dent, J. and Wise, R. Susceptibility of clinical isolates of helicobacter pyloridis to antimicrobial agents. Chemotherapy, 1985;28 :837-39.
6. Lambert. JR., Borromeo, M., Korman. MG. eta!. Effect of colloidal bismuth (Dc-No!) on healing and relapse of duodenal ulcers - role of campylobacter pyloridis. Gastroenterology, 1 987;92: 1489 (Abst).
7. Chiba, N., Rademaker, J.W., Rao, B.V. et al. Eradication of helicobacter pylori -a mets-analysis to determine optimal therapy. Gut., 1991 ;32:A1 220-21.
8. Diaz, M. and Escobar, QA.S. Metronidazole versus cimetidine in the treatment ofgastroduodenal ulcer. Lancet, 1986;1:907-11.
9. Glupczynski, Y. and Gurette, A.B. Drug therapy for helicobacter pylon infection: problems and pitfalls. Am.J.Gastroenterol., 1990;85: 1545-51.
10. Borody. 1., Cole, P., Noonan, S. et al. Long term campylobacter pylon recurrence post-eradication. Gastroenterology, 1988 ;94:A43 (Abst).
11. Grahams. DY., Lew, G.M, Malaty, H.M et al. Factors influencing the eradication of helicobacter pylon with triple therapy. Gastroenterology, 1992;1 02:493-96.
12. Becx, M.C., Jansen, Al., Claesener, HA. et a!. Metronidazole - resistant helicobacter pylon. Lancet, 1990;335:539-40.
13. Gluperzynski, Y., Burette, A,, DeKoster, E. et a!. Helicobacter pylori and metronidazole resistance. Lancet, 1990;335 :976-77.
14. Queiroz, D.M.M., Coimbra, R.S., Mendes, E.N. et al. Metronidazole resistant helicobacter pylon in developing countries. Am.J.Gastroenterol., 1993;88:322-23.
15. Qureshi, H., Ahmed, W.A., Lodi, T.Z, et al. Camparison of commercially available CLO test with the locally prepared test J.Pak.Med.Assoc., 1993;43: 139-40.
16. Kazi, J.I., Jafarey, N.A., Alam, S.M et al. A placebo controlled trial of bismuth salicylate in helicobacter pylon associated gastritis. J.Pak.Med.Assoc., 1990;40: 154-56.
17. Rauws, E.A.J. and Tytgat, G.N.J. Campylobacterpylori. Amsterdam, WC. den oudenBV, 1989, p. 108.
18. Schnell, GA.. Schubert, T.T.. Barnes, W.G. et al. Comparison of unease, H&E and culture tests for campylobacter pylon (abstract). Gastroenterology, 1988;94:A410.
19. Westblom, TU., Madan, E., Kept, J. eta!. Evaluation ofrapid urease test to detect campylobacter pylon infection. J. Clin.Microbiol., 1 988;26: 1393-94.
20. Haq, 0., Ahmed, W., Kazi, J. I. et al. Can diagnosis ofhelicobacterpylon be rapid and yet sensitive? J.Pak.Med. Assoc., 1991 ;4 1:139-40.
21. Kazi, J.I., Jafarey, N.A., Alam, SM. eta!. Association of helicobacter pylori with acid peptic disease in Karachi. J.Pak.Med.Assoc., 1 990;40:240-4 1.
22. Goodwin, C. and Worsley, S.B. Peptic ulcer disease and helicobacter pylori øa infection. Current Opinion in Gastroenterology, 1992;8:122-27.
23. Withelmsen, I., Weberg, 0., Gerstad, K. et al. Helicobacter pylon eradication with bismuth subnitrate, oxytetracycline and metronidazole in patients with peptic ulcer disease. Hepato. Gastroenterology, I 994;41 :43-47.
24. Qureshi, H., Ahmed, W., Zuberi, S.J. et al. Use of CLO test in detection of helicobacter pylon infection and its correlation with histologic gastritis. J.Pak.Med.Assoc., I 992;42:292-93.
25. Ahmed, W., Qureshi, H. and Zuberi, S.J. Healing and relapse rates of duodenal ulcer with various H2 receptors antagonists. J.Pak.Med.Assoc., 1988;38:319-22.