HEALING AND RELAPSE RATES OF DUODENAL ULCER WITH VARIOUS H2 RECEPTOR ANTAGONISTS

Pages with reference to book, From 319 To 322

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Abstract

Retrospective analysis of 119 endoscopically proven cases of duodenal ulcer, treated with Famotidin (40 mg),Cimetidine (800 mg) and Ranitidine (300 mg) at bed -time, showed heating rates of 91, 74 and 68%, respectively, at 6 weeks. Twenty patients were followed up for one year on maintenance dose and endoscoped at 3, 6 and 12 months. Despite taking the drug regularly a relapse rate of 14% was seen with Famotjdine and 50% each with Cimetidine and Ranitidine. Though relapse was seen with all three drugs, with or without maintenance, but Famotidine showed better healing and less relapse rate with maintenance therapy ($p < 0.05$) (JPMA 38: 319 , 1988).

INTRODUCTION

Two H2 receptor blockers, Cimetidine and Ranitidine[1-2] are already in clinical use for the treatment of duodenal ulcer. Recently, a new thiazole
H2 receptoT antagonist Fainotidine has been introduced. Its antisecretory effect is 20-30 times more than Cimetidine and 8 times more than Ranitidine1- 2. Under normal nutritional conditions 70% of 24 hours gastric acid output is inhibited with 40 mg of Famotidine at bed time[3].
As better compliance and healing rates are reported with a single bed time dose[4-5], therefore relative efficacy in the relief of pain, healing and relapse rates of duodenal ulcer in the present study were compared in those patients taking Famotidine, Cimetidine, or Ranitidine each in a daily single bed time dose.

PATIENTS AND METHODS

One hundred and nineteen endoscopically proven cases of duodenai ulcer, taking a single bed time dose of Cimetidine, Ranitidine or Faimotidine, were selected from the records of PMRC Research Centre. Patients having associated gastric ulcer, pyloric stenosis, previous gastric operation for ulcer and those on steroids or nonsteroidal anti-inflammatory drugs were excluded from the study.
All patients were treated on out-patient basis; fortyfive patients were treated with Famotidine (40 mg), 43 with Cimetidine (800 mg) and 31 with Ranitidine(300 mg) at bed time daily for 4 weeks. Clinical evaluation was done on 14±3 and 28±4 days. Patients were re-endoscoped after 28±4 days to see the healing rates. Non-healers were given the drug for further 2 weeks and again endoscoped on 42±5 days. Of patients with healed ulcer, 20 were kept on the maintenance therapy of 20 mg Famotidine (8), 400 mg Cimetidine (6) and 150 mg Ranitidine (6) at bed time. The control group comprised of 28 patients with healed ulcer who were followed up without any maintenance therapy for one year. Relapse rate in both groups was compared at the end of one year.
Statistical analysis was done by X2 test and student ‘t’ test.

RESULTS

One hundred and nineteen patients treated with the H2 receptor antagonists were analysed.

TABLE – I. Characteristics of Patients treated with 3 H_2 Receptor Antagonists.

	Famotidine	Cimetidine	Ranitidine
No. of Cases	45	43	31
Age (Mean ± S.D.) (yr. range)	39 ± 11.8 (18 – 61)	42 ± 14.1 (15 – 70)	36 ± 11.8 (18 – 73)
Male/Female	38/7	33/10	25/6
Duration of Symp. (months)	(1 – 30)	(1 – 24)	(1 – 25)
Body Weight	55.9 ± 9.7	57.1 ± 16.4	53.9 ± 15.1
Blood Group 'O'	20	12	12
Bleeders	20	24	10
Smokers and Tobacco chewers	28	22	24
No Addictions	17	21	7

Healing: Healing rates on endoscopy were better with Famotidine, than with the other two drugs, at both 4 and 6 weeks (Figure I).

Table I shows the demographic data of the patients. Three groups were comparable for age, sex, duration of disease, body weight, blood group and addictions.

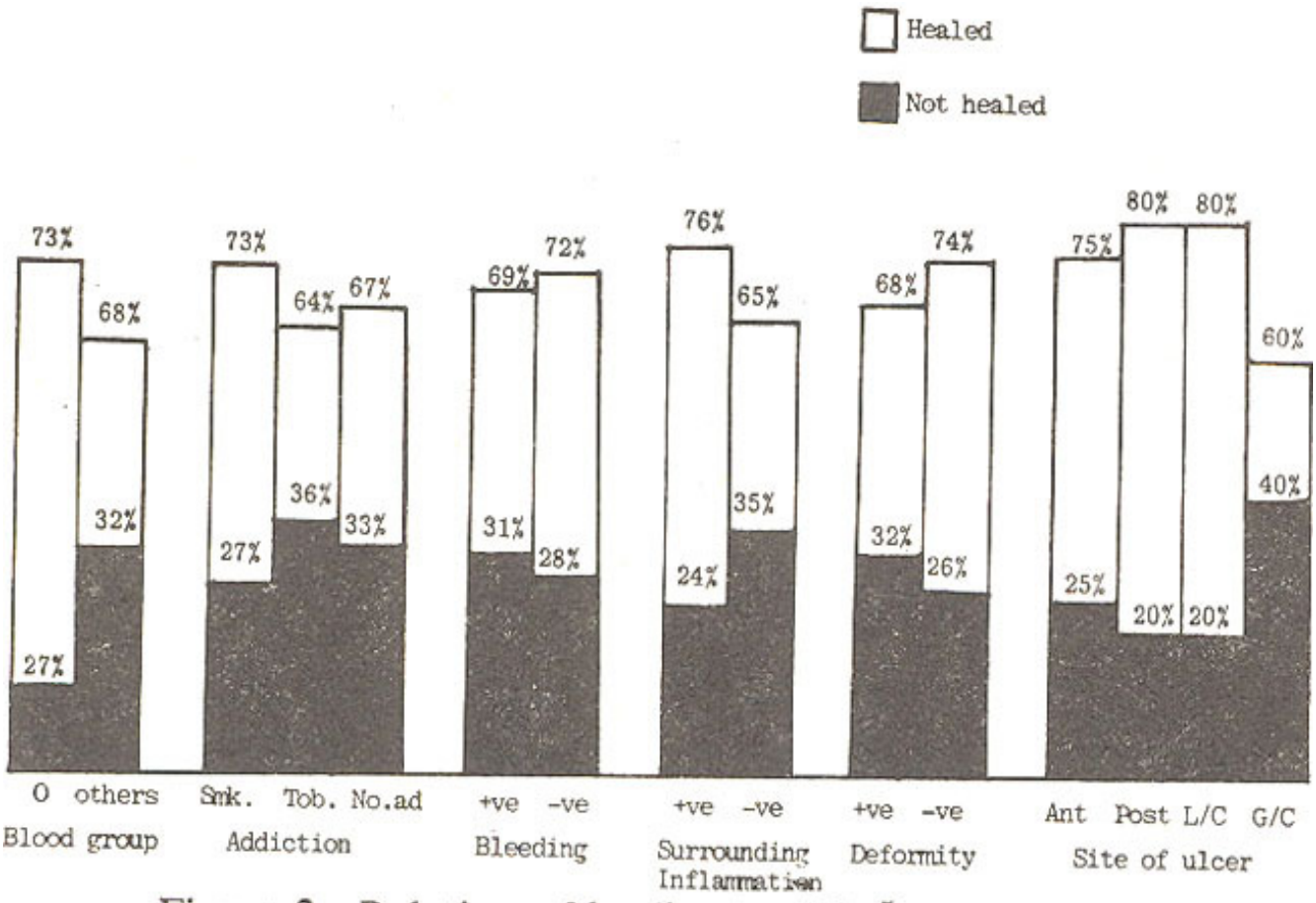

Figure 2. Relation of healing to risk factors.

Symptomatic relief; After 2 weeks of therapy, 42% on Famotidine, 33% on Cimetidine and 20% on Ranitidine were asymptomatic.

Relapse: Of 20 patients on maintenance therapy for 1 year, 14% on Famotidine and 50% each, on Cimetidine and Ranitidine relapsed despite taking the drug regularly. The relapse ratç in the control group varied between 56-80% (Table II).

TABLE – II. Mortality in relation to Perforation/ Operation Interval.

*P/O Interval	No of Patients	Deaths	Mortality%
24 Hours	18	2	11
25–48 Hours	16	4	25
49–72 Hours	7	4	57.14
3 – 5 Days	3	2	66.66
Not Known	8	NIL	–
Total	52	12	–

* Perforation/Operation Interval

Effect of risk factors on ulcer healing: Various risk factors like age, sex, duration of disease, body weight, blood group, addictions, site and bleeding from ulcer had no significant effect on ulcer healing Table III and Figer 2.

TABLE – III. Healing/Age, Duration of Disease and Body Weight.

	Healed	Not Healed	
n	83	36	
AGE (Yr, mean ±SD)	39 ±12.5	40 ±13.3	N.S
Male/Female	67/16	29/7	N.S
Duration of Disease Month, Median (Range)	21 (1–300)	26 (1–360)	N.S.
Body Weight (Kg ± SD)	55 ±11.8	54 ± 12.9	N.S.

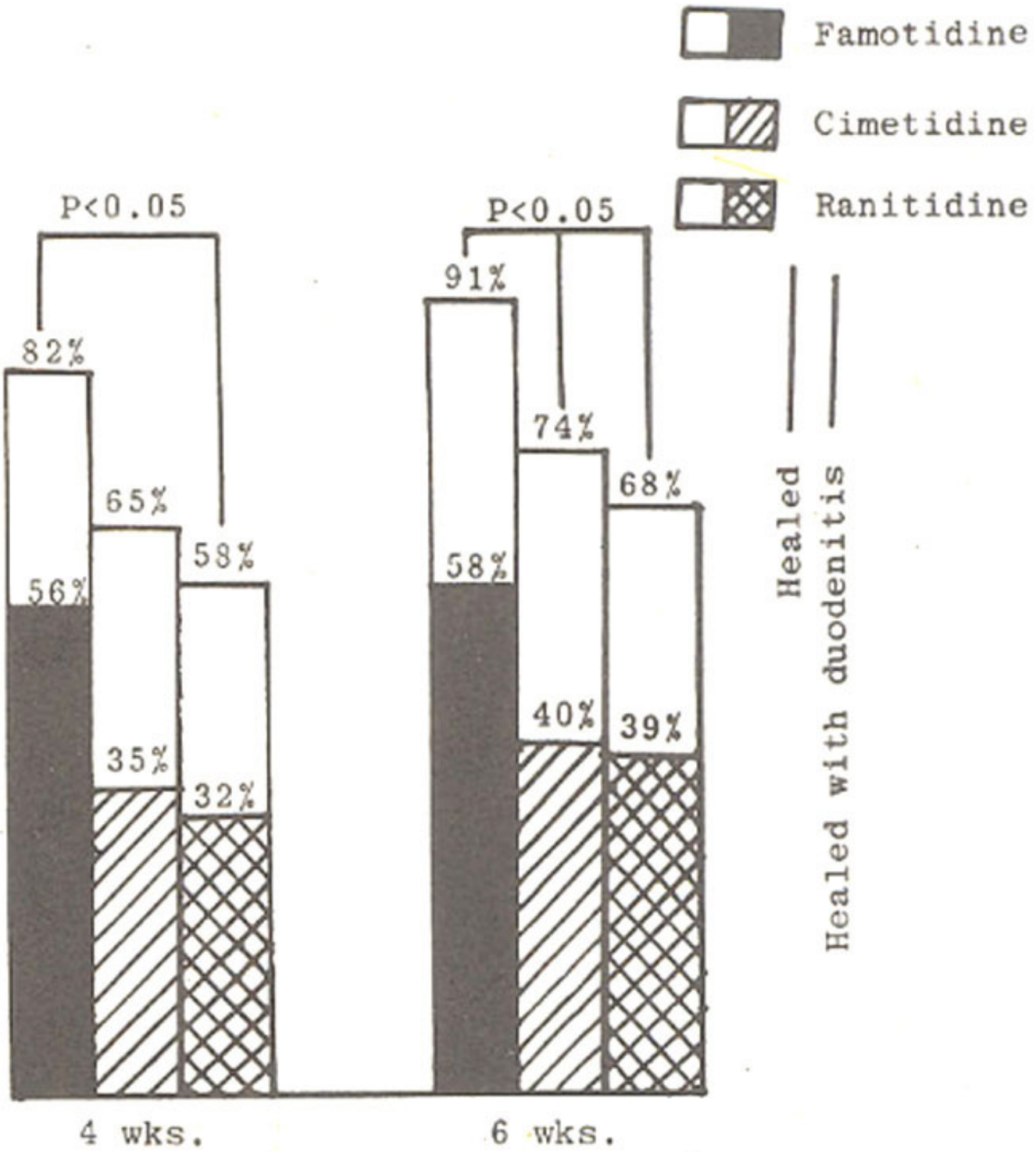

Figure 1. Healing rates at 4 and 6 weeks.

Side effects: Except for headache, alteration in bowel habits, pruritus and allergic rashes in 5% cases no serious side effects were noted in any case.

DISCUSSION

Analysis of healing and relapse rates of duodenal ulcer with the three H2 receptor antagonists showed significantly higher healing rates ($P < 0.05$) at 6 weeks with Famotidine as compared to the other two drugs and relapse rate was also less with this drug.

Recurrence of duodenal ulcer within one year of the discontinuation of H2 receptor antagonists varies from 70-90%[15] which is similar to that seen in the present study. Similarly during maintenance therapy, 48% ulcer recurrence reported earlier[16] has also been observed in this series, suggesting that irrespective of the geographical variation and ulcer predisposing factors, the healing and relapse rates of duodenal ulcer remain almost similar. Although the chances of picking up painless ulcer recurrences increase with the frequency of endoscopic examination'[16] but keeping the cost of treatment, endoscopic examination and the loss of working hours in mind it would not be a cost effective approach for the determination of ulcer healing.

Most studies[6-9] have shown that ulcer healing is influenced by various risk factors like smoking, duration of symptoms, previous bleeding, age and sex of the patients. This and some other studies indicate that none of these factors seemed to influence ulcer healing. [10-11]

Although smoking is known to delay ulcer healing[8] but lack of influence of smoking on ulcer healing seen in the present study might be because of the small study group and a greater number of smokers in this series.

The healing rates of the three drugs at 4 weeks was compared with other studies done in India[12] and a multicentre study[13-14] Healing rates with Famotidine were similar in the present series (82%) and the multicentre study (76%). Cimetidine showed almost identical results in the present study and in India, being 65% and 68% respectively against 84% in the multicentre study. site oi ulcer Healing rates with Ranitidine were 83% and 89% in multicentre and Indian studies, respectively, while it was low (58%) in the present study. Low healing rates with Ranitidine might probably be due to smaller number of patients and more smokers in this study group.

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