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Original Research Paper

Gastroenterology

A COMPARATIVE EVALUATION OF EFFECTIVENESS OF ACOTIAMIDE WITH RABEPRAZOLE VS MOSAPRIDE WITH RABEPRAZOLE IN PATIENTS WITH FUNCTIONAL DYSPEPSIA POST H.PYLORI ERADICATION

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ABSTRACT

Background: Functional Dyspepsia is well defined when a patient had one or more of these symptoms with duration of three months or longer like post-prandial fullness, early satiation, epigastric pain and burning, bloating, nausea, vomiting and belching. Functional dyspepsia, consisting of epigastric pain syndrome and postprandial distress syndrome, is a prevalent functional gastrointestinal disorder. To date, only limited treatment options are available and conflicting results in terms of efficacy have been reported. **Methods:** This was a prospective, comparative study carried out for a period of six months. Patient data were extracted from their medical records. Treatment outcome was evaluated based on the resolving of Symptoms using Gastrointestinal Symptom Rating Scale (GSRS), and (Hospital anxiety and depression scale) HADS scales. Descriptive statistics were used to summarize patient characteristics. Unpaired t-test and Mann Whitney test were used wherever appropriate. **Results:** A total of 100 patients with confirmed functional dyspepsia after H. pylori eradication were included.They were randomized into two study Groups namely Group 1 & 2. Each Group consists of 50 patients. Patients in Group 1 treated with Acotiamide and Rabeprazole. Group 2 patients treated with Mosapride and Rabeprazole. Patients with two different treatments have shown significant improvement in gastrointestinal symptoms. The major risk factors are consumption of junk food, tea and spicy food. Our study shows that FD is predominant in Females than Males. Minor ADRS were reported which includes Nausea, Headache, dizziness and Constipation. study till date revealed that effects of both gastroprokinetic drugs help in enhancing Gastric emptying Rate (GER) , Gastric Accommodation Rate (GAR) and helps in acceleration of intestinal transit which ultimately results in preventing relaxation peristaltic movements respectively. **Conclusion:** Our study demonstrated that Mosapride and Acotiamide were both effective and well tolerated in FD patients without serious side effects. We found that effectiveness of Mosapride is 86% and Acotiamide is 84% thus Mosapride offers good alternative to Acotiamide in treating post H.pylori FD patients. Further investigations with increased sample are required in order to confirm the results in depth.

KEYWORDS : FD, HP, GER, GAR, GSRS, HADS

BACKGROUND:

Post H. Pylori Functional Dyspepsia:

Prokinetic agents are a drug category that enhances gastrointestinal (GI) motility. They are predominantly prescribed for functional GI disorders and functionally derived symptoms such as abdominal discomfort, bloating,and constipation. Therefore, prokinetics represent one of the key therapeutic options for FD patients. Acotiamide is a novel prokinetic drug that acts by enhancing the release of Acetylcholine and is used in the treatment of Functional Dyspepsia. Mosapride is indicated to FD as per the Rome III treatment guidelines.

Mosapride 5 mg is approved by the Drugs Controller General of India (DCGI) for the treatment of FD. Mosapride has been primarily used as a treatment for FD patients in Japan and other Asian countries A previous multi-center study for Japanese FD patients reported adequate efficacy and safety of Mosapride.

Acotiamide is widely used to improve symptoms in patients with (FD) in multiple large-scale clinical studies. Acotiamide inhibits acetylcholine esterase (AchE) and blocks M1 and M2 muscarinic receptors, resulting in Acetylcholine release enhancement at the neuromuscular junction. 5-HT4 agonists (Mosapride) and Acetylcholine esterase inhibitor (Acotiamide) are prokinetics used to treat (FD).

METHODS:

The present prospective comparative study was carried out at the Department of Gastroenterology in tertiary care hospital in Hyderabad for a period of six months.

Inclusion Criteria:

Patients with the following criteria were allowed to participate in this study: 1)Outpatients, 2) Patients of age 18 - 60 years including both the gender, 3) H.PYLORI negative patients, 4) Patients with symptoms of FD, 4) Patients who are willing to give their informed consent to participate in the study.

Exclusion Criteria:

Patients with the following criteria were excluded: 1) In-patients, 2) Patients of age;60years of both the gender; 3) Patients with a history of cardiac problems, 4) Pregnant and lactating women, 5) Elderly patients with renal or hepatic dysfunction, 6) Pediatric patients, 7) Drug or Alcohol abuse.

Study Outcomes:

Improvement in overall health condition and Reduction in Gastrointestinal signs and symptoms by analyzing the combination of Acotiamide with Rabeprazole and Mosapride with Rabeprazole in FD with post-H.pylori infected patients.

Statistical Analysis

The data was analyzed using Statistical Package for Social Service (SPSS) Version 26. Means and standard deviations (SD) were calculated for continuous variables, while frequencies and percentages were calculated for categorical variables.

Unpaired t-test was used to compare the mean scores before

and after treatment. The Mann-Whitney U test was used to compare whether there is a difference in the dependent variable for two independent groups.

RESULTS

Baseline characteristics

A total of 100 patients with confirmed FD after H. pylori eradication were included in study. They were randomized into two study groups namely Group 1, 2. Each group consists of 50 patients,where as Group 1 treated with Acotiamide and Rabeprazole vs Group 2 treated with Mosapride and Rabeprazole.

Age :

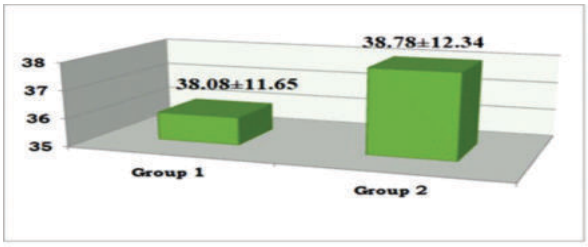

Fig.1

Description: The mean of patients in Group 1 was (38.08±11.65) and **Group 2** was (38.78±12.34)

Risk Factors:

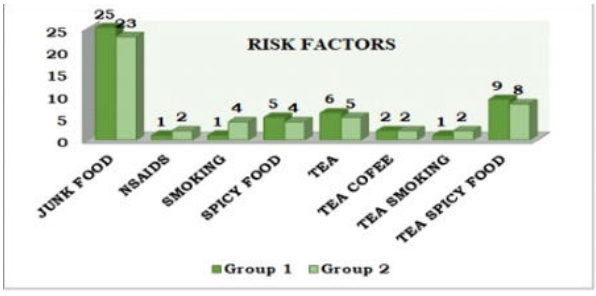

Fig.2

Table .1

RISK FACTORS	Group 1	Group 2
Junk food	25 (50%)	23(46%)
NSAID	1(2%)	2(4%)
Smoking	1(2%)	4(8%)
Spicy food	5(10%)	4(8%)
Tea	6(12%)	5(10%)
Tea coffee	2(4%)	2(4%)
Tea smoking	1(2%)	2(4%)
Tea spicy food	9(18%)	8(16%)

Description:

The highest risk factors for both groups was Junk food, Group 1 (50%) and Group 2 (46%), Tea with spicy food in Group 1 (18%) and Group 2 (16%).

According to gender description- on comparison of both the groups Female Group 1 (66%) and Group 2 (64%) were dominant than Males of Group 1 (34%) and Group 2 (36%)

Nausea was the most common adverse effects occuring in both the groups, followed by headache, dizziness and constipation.

Gsrs Scale:.

Table .2

GSRS Before treatment	Reflux	Abdominal Pain	Indigestion	Diarrhea	Constipation	p value
Group 1	4.01±1.10	3.86±1.15	4.96±1.12	1.56±0.12	2.62±1.16	<0.10
Group 2	4.21±1.54	3.45±1.58	4.48±1.22	1.65±0.25	2.65±1.11	

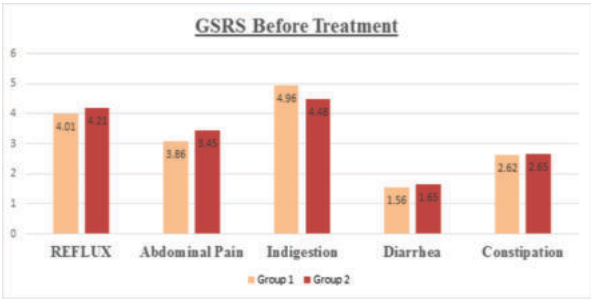

Fig: 3

GSRS before treatment:

- Among the FD patients the most common complaints were Indigestion, Reflux and Abdominal pain , followed by Constipation and Diarrhea
- FD symptoms resolved more in Group-2 than in Group-1 significantly.
- In both the Groups: Diarrhea, Constipation & Abdominal Pain is resolved more, followed by Reflux & indigestion after treatment.

P value was found to be less than <0.10 and calculated by unpaired T test or independent T test

GSRS After treatment	Reflux	Abdominal Pain	Indigestion	Diarrhea	Constipation	p value
Group 1	2.99±1.96	2.10±1.20	2.90±1.14	1.10±1.17	1.85±1.5	<0.05 or less
Group 2	2.02±1.05	1.36±1.11	2.26±1.75	1.59±0.75	1.23±0.98	

GSRS After Treatment:

P value was found to be less than <0.05 and calculated by unpaired T test or Independent T test.

HADS Scale:

- The anxiety and depression were assessed by HADS scale.
- Group 1, **Acotiamide** shows significant improvement in anxiety score.
- P value of anxiety was found to be 0.05 for Group 1; **Acotiamide**, 0.06 for Group 2; **Mosapride** and P value was calculated by Mann Whitney U test.

Outcomes:

According to the outcomes both the drugs have similar effectiveness, Group 1 **Acotiamide** with 84% and Group 2 **Mosapride** with 86%.

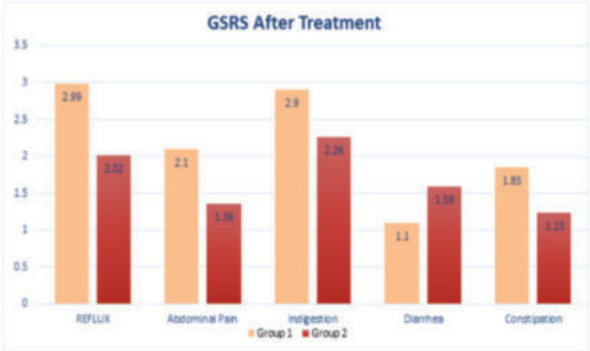

Table.4

Outcomes	Group 1	Group 2
Effected	42(84%)	43(86%)
Uneffected	8 (16%)	7(14%)

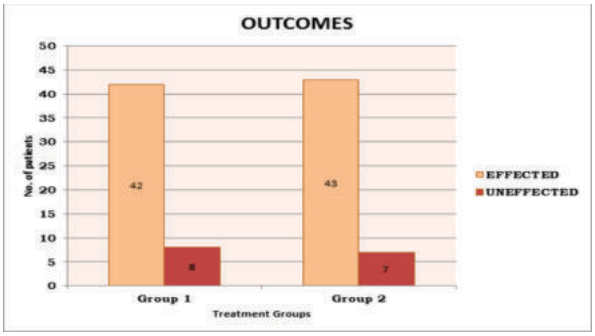

Fig.5

DISCUSSION:

- Acotiamide and Mosapride has been confirmed to improve symptoms of FD patients in multiple large scale clinical studies, but there are only a few studies performed on it.
- Therefore, we concluded a prospective, comparative study at a single site to assess the effectiveness of Acotiamide and Mosapride on Gastric Accommodation, Gastric Emptying, Digestive symptoms and Anxiety.
- We conducted a prospective comparative study to assess the effectiveness of gastroprokinetic agents, Acotiamide with Rabeprazole (Group-1) verses Mosapride with Rabeprazole (Group-2) on Gastric accommodation, Gastric emptying, Digestive symptoms and Anxiety.
- This study applies similar disease definition, inclusion/exclusion criteria, and treatment duration as previous studies that evaluated drug efficacy in functional dyspepsia.
- In our trial, Diarrhea, Constipation & Abdominal pain were resolved more.
- To the best of our knowledge, this is the first clinical comparative trial between Acotiamide and Mosapride in FD patients in Indian population.
- There have been earlier studies on the efficacy of Acotiamide v/s Placebo effect. However, to date, there has been no published study indicating Mosapride effects attenuating GI symptoms v/s placebo effect
- Several animal studies have shown that Acotiamide improves gastric motility, but few human studies have been performed.
- It is known that GI and psychiatric symptoms influence each other bi-directionally, through the brain-gut axis. Indeed, the improvement of GI symptoms brings recovery to mental malaise.
- According to our study, FD predominance in Females rather than Males of Age Group 30-40 years.
- The major leading risk factor was found to be junk food and the HTN was the most common co-morbid condition in both the groups.
- There are no serious adverse events were reported, however mild ADR occurred like nausea and headache which were later resolved.
- Our study demonstrates that Safety and efficacy do not differ between Mosapride and Acotiamide for FD patient Contrary to our expectations, we did not confirm a difference in the effectiveness of either of the two drugs for FD symptoms.
- Gastric accommodation and emptying were improved by receiving Acotiamide and Mosapride for 2 weeks. Digestive symptoms, especially abdominal pain and dyspepsia also improved significantly as did scores on the GSRS scale.
- In the present study, the degree of symptom improvement of functional dyspepsia in the group I , evaluated by the change of total GSRS score after 15 days of treatment, was not inferior to that in group II.
- In addition, no difference in the change of specific GSRS scores, rate of satisfactory symptom relief, was observed between the two groups, indicating that efficacy of Acotiamide was comparable to Mosapride in this study.
- Both drugs have shown to improve reflux symptoms through increasing esophageal motility.
- In this study, depression and anxiety scores were assessed on the HADS.
- The anxiety score was significantly improved after study drug administration in the Acotiamide group, findings did not differ before and after study drug administration in the Mosapride group.
- This finding indicates that the direct action of Acotiamide may have improved the score, serving as a stress modulator in the medulla oblongata or hypothalamus.
- Mosapride and Acotiamide had similar effects on GI symptoms in FD patients in the absence of severe adverse events. Further investigation is needed to clarify the difference between Mosapride and Acotiamide.

CONCLUSION:

In conclusion, our study demonstrated that Mosapride and Acotiamide were both effective and tolerated in FD patients without significant side effects. Further studies with an increased number of subjects are required in order to confirm the results.

We found that Mosapride offers good alternative to Acotiamide in treating post H.pylori FD patients.

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