



ORIGINAL RESEARCH PAPER

Biotechnology

UTILIZATION OF PROTON PUMP INHIBITORS AND PROMOTING THE QUALITY USE FOR ASSESSMENT.

KEY WORDS: Proton Pump Inhibitors, Gastro-oesophgel Reflux, Non Steroidl Inflammatory Drugs (nsaid).

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ABSTRACT PPIs irreversibly inhibit the gastric H⁺-ATPase pump also known as proton pump and reduce both basal and stimulated gastric output. Inhibition of the proton pump in the parietal cells has been established as the main therapeutic principle in the treatment of acid-related diseases, such as peptic ulcer and gastro-esophageal reflux. They accumulate in the target cell and are activated by acid and bind strongly to the specific target - the proton pump, inappropriate PPI use results in increased healthcare costs and unnecessary exposure to potential adverse effects. Ideally, PPI therapy should be personalized, based on indication, effectiveness, patient preference, and risk assessment.

INTRODUCTION

Proton pump inhibitors (PPIs) are a group of drugs that cause pronounced and long-lasting reduction proton of gastric acid production. They are most potent gastric acid suppressing drugs currently in clinical use.¹

PPIs irreversibly inhibit the gastric H⁺-ATPase pump also known as proton pump and reduce both basal and stimulated gastric output. Inhibition of the proton pump in the parietal cells has been established as the main therapeutic principle in the treatment of acid-related diseases, such as peptic ulcer and gastro-esophageal reflux. They accumulate in the target cell and are activated by acid and bind strongly to the specific target - the proton pump. The clinical superiority of the 1proton pump inhibitors is due not only to their high efficacy but also to the long duration of the acid inhibition in comparison with other anti-secretory drugs.

Currently the PPIs available in India are omeprazole, esomeprazole, pantoprazole, rabeprazole and lansoprazole. PPIs are used therapeutically in active ulcers, Zollinger-Ellison syndrome, Gastro esophageal Reflux Disease (GERD), GI bleeding, dyspepsia from NSAID's and along with antibiotics for helicobacter pylori.²PPIs are also given prophylactically along with NSAID's or Steroids in patients with history of peptic ulcer / previous GI bleed / elderly patients.³

The authors concluded that, while PPIs are highly efficacious in erosive acid-peptic disorders, efficacy is not equalled in other conditions. In some instances, they found no supportive evidence of benefit. With respect to side effects, they indicated that the questionable harms associated with PPI therapy do not outweigh the benefits afforded by appropriate PPI use.

However, inappropriate PPI use results in increased healthcare costs and unnecessary exposure to potential adverse effects. Ideally, PPI therapy should be personalized, based on indication, effectiveness, patient preference, and risk assessment.

MATERIALS AND METHODS:

Methodology

The setting for this study was carried out in multihospital setting. A standard proforma was used to perform a survey of the prescription charts of all patients in a hospital from a questionnaire. The proforma included details of patient age and sex, department ,indication for PPI use, type of PPI prescribed chief complaints ,duration of therapy and details of other prescribed medications.

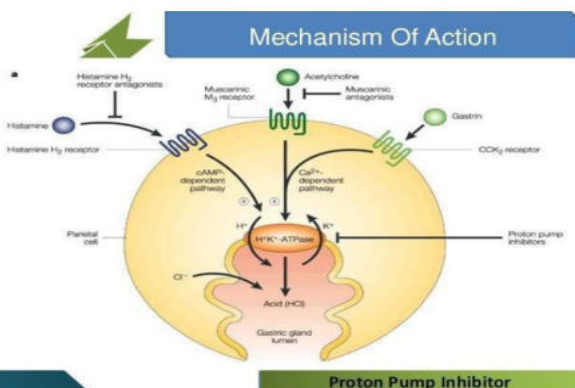
The study is being conducted in a secondary care hospital.to meet the study eligibility criteria data is being collected and assessed on the indication and utilization of PPIs

Questionnaire Includes:

- Demographic data of the respondents.
- Knowledge regarding PPI.

RESULTS AND DISCUSSION

In a total of 710 patients, 392 (55.2%) patients were on ppis, of which 107(27.2%) patients are from general medicine and 35(8.92%) from dental department,38(9.69%) from pulmonology,26(6.6%) from surgical,2(0.5%) from ENT,4(1%) from ophthalmology,2(0.5%) from ART,153(39.03%) from gastroenterology,8(2.04%) from dermatology,14(3.57%) from orthopaedics,3(0.76%) from gynecology. From the above results upon statistical analysis chi-square value obtained is 174 and degree of freedom value is 1.Upon statistical application p value is obtained as



(0.00001) and alpha significance value is (0.05).

Table.2 Department wise distribution of patient on proton pump inhibitors

Department	No of patients on ppis	Patients on ppis (%)
General Medicine	107	27.2%
Dental	35	8.92%
Pulmonology	38	9.69%
Surgical	26	6.6%
ENT	2	0.5%

Out of 392 patients on ppis there are 39 patients under age group 18-25(9.94%),100 patients under age group 26-40(25.5%),146 patients under age group 41-60(37.24%),107 patients under age group above 60 years (27.29%) and 61.98% were males and 39.01% females

Age	% of patients
18-25	9.94%
26-40	25.51%
41-60	37.24%
Above 60	27.29%

4 Gender wise distribution of patients on proton pump inhibitors

Gender	% of patients
Male	61.98%
Females	39.01%

Rationality of drug use in this study

Rationality of drug use	% of patients
Rational	95.4%
Irrational	4.59%

DISCUSSION

The results of this study describe the utilization and indication of PPIs prescribed among various departments in a multicentered hospital setting.

Analyses previously based on assessment of use of PPIs, this study allows a link between prescribing and utilization of drugs. The analyses of the study with 710 patient populations takes us to the fact that rational use of ppis were shown to be 40.8% with a definitive purpose.

The present study shows that total of 55.2% of hospitalized patients were on ppis during the study period.

Among the patient population PPI users have presented with various clinical conditions such as gastritis, GERD, H.pylori, ulcers, gastroenteritis.

Epidemiological studies suggest that it shows an association between PPI use in various departments and in various age groups.

The main interest of the study concerns prescribing and usage based on patient interview. The methodology of the study involves a patient questionnaire with an informed consent form.

The study is being held on a total of 710 patients of which 392 patients are prescribed with PPIs. On the other hand over 318 patients can be identified in the population of non ppi users while performing the study in a hospital. Hence been assessed for various departments prescribing PPIs. Also various aspects related to PPI use have been assessed.

Hence most probably the PPIs are prescribed for prophylactic use rather than for a definitive purpose which includes 54.59% and 40.81% respectively and only about 4.59% were reported to misuse.

CONCLUSION

A substantial number of patients who apparently do not meet prescription suitability condition can be identified, but among non PPI users on the contrary it is possible to identify equal no of patients for whom prescription would be suitable. Thus there is scope for appropriate use of PPIs by adhering to criteria.

Hence 40% of the study population have shown to be with a definitive while 54.59% shown with a prophylactic use.

From the above findings it is concluded that there is no irrational drug prescribing for PPIs.

Prophylactic utilization of PPI is much higher than its definitive indication.

According to the results obtained it is clear that males are more prescribed with PPIs in comparison with females.

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