

Rational Prescribing of Omeprazole in a Government Hospital

Siyad AR^{1*}, Jeeva J²

1 Crescent College of Pharmaceutical Sciences, Madayipara, Payangadi, Kannur, Kerala

2 Malik Deenar College of Pharmacy, Kasaragod

Abstract

A drug utilization evaluation of Omeprazole was conducted in a 100 bed government hospital. Base line audit was done in selected wards of the hospital over 30 days, which identified 200 patients receiving Omeprazole. The main reasons for prescribing Omeprazole were prophylaxis against non-steroidal anti-inflammatory drugs (70%) and pain in the epigastrium (16%). In 14% of the cases, the reasons for prescribing omeprazole were due to duodenal and gastric ulcer. A questionnaire on omeprazole usage was developed and the responses from all the doctors of the hospital were obtained. Guidelines for Omeprazole usage in the hospital were formed and officially circulated among the doctors in the hospital. Another 30 days audit was carried out in the same wards where base line audit was performed during which 117 inpatients were identified to be taking Omeprazole. Prophylactic use of non-steroidal anti-inflammatory drugs decreased to 40%. More than 18% reduction of overall inpatient Omeprazole usage was noticed during the study period compared to a similar period from the previous year. The program brought about rational changes in Omeprazole prescribing and awareness among doctors regarding the cost effective usage of drugs.

Keywords: Omeprazole, Government hospital, Rational therapy, Guidelines

Introduction

Drug utilization audits are quality assurance programs to ensure that drugs are used safely and cost effectively. The nature of such audits can be quantitative, qualitative or a combination of both. Quantitative audits are concerned with quantifying various facts of drug use within a health care system or area or group whereas qualitative audits compare drug use or practice with predetermined standards of criteria. A drug utilization evaluation program incorporates both quantitative and qualitative review of utilization and also initiates efforts to improve drug usage that is not consistent with the standards.

The site of the study is a 100 bed, secondary care, non-teaching Government Hospital (GH). The hospital has many medical and surgical units and provides free treatment including drugs to the poor patients. The hospital is also a site for clinical pharmacy practice and education. The state government has fixed budget for each government hospital and primary health centre in the state, specifying the maximum amount that can be spent on drugs and surgicals. The budget for GH in the financial year 2004-2005 was sixteen lakh rupees.

Common targets for drug audit include those drugs used in high volume with high unit cost, highly prone for adverse

events and interactions, with narrow therapeutic index, associated with a high rate of inappropriate use in clinical practice and those newly added to the hospital formulary. The drugs that were prescribed heavily and those that lead to major expenses in the budget for GH during the financial year 2004-2005 were identified from the pharmacy records. Antibiotics such as cefotaxime and amoxicillin accounted for most expensive categories, while paracetamol, multivitamins, vitamin-B complex and omeprazole were those that were prescribed heavily.

The heavy use of multivitamin and vitamin B Complex shows that most of GH patients suffer from malnutrition and anemia. Paracetamol being the least expensive and relatively safer analgesic – antipyretic, its extensive usage at GH was well justified. That leaves omeprazole which is used widely in most countries for a variety of indications and there existed variations in the approved indications for omeprazole between different settings. Inappropriate use of omeprazole has caused unnecessary expenditure to hospital pharmacies in general that has been the subject of many drug utilization studies.

Omeprazole was one among the volume leaders in utility at GH during 2002-2004 and was selected as the target drug for our drug utilization audit. The prime objective of this

*For Correspondence: siyadmpharm@yahoo.com

program was to ensure rational use of omeprazole at GH through a pharmacy initiated drug-prescribing audit. The secondary objectives included creating awareness for cost effective utilization of drugs in the hospital and establish beyond dispute the key role of a pharmacist in hospital quality assurance activities on drug utilization.

Material and Methods

Consent from GH authorities was obtained before the initiation of the audit. All the healthcare professionals of the hospital were informed about the program. Base line data collection was done over a period of 30 days in January, 2005. Wards were selected in consultation with the hospital authorities after considering the nature of admissions to various wards and accessibility of data. Wards selected for the audit were male medical ward, female medical ward, and male surgical ward, female surgical ward, intensive care unit and intensive cardiac care unit.

Inclusion and exclusion criteria

All in-patients from the six selected wards of the hospital, received at least one dose of oral or parenteral omeprazole during the study period were included in this study. Patients were followed up from the time of admission till discharge, death or end of the study period. Patients who are not willing to participate in this study were excluded from the study.

A data collection sheet was used to gather information on patient demography, reason for admission to the hospital, name of the doctor prescribing omeprazole, reason for prescribing, duration of therapy, reason for stopping and other drugs prescribed along with omeprazole.

Baseline data collection was followed by a questionnaire phase among the doctors of GH. Responses were collected from the doctors by personal visits to the office. Guidelines for omeprazole usage in GH were framed using data from standard medical text books and guide lines of other hospitals. These guidelines were approved by the hospital

authorities and were officially circulated among GH doctors.

Another 30 days audit was done on June 2005 to assess the impact of these guide lines on omeprazole prescribing. The audit was carried out in the same wards where base line data was collected, following the same procedure omeprazole prescribing pattern to inpatients and outpatient was separately obtained from the central pharmacy. Qualitative and quantitative analysis of omeprazole prescribing during base line phase and post guide line phase was performed and compared.

Results

A base line phase indentified 200 cases of omeprazole therapy out of 525 admissions to the study areas over a period of 30 days, where are final phase identified 117 cases out of 400 admissions over an equivalent period of time.

Woman accounted for nearly two third of the total study subjects in both the phases. Oral dosage form was prescribed in 84% and 60% of the cases respectively during base line and final phase surgeons and physicians together accounted for about 62% of omeprazole prescription during base line phase and 51% final phase. All the 15 GH doctors were personally met in their office to get their respective questionnaire filled. 75% of the doctors were of the opinion that omeprazole is over used in the clinical practice. Majority of the doctors would prescribe omeprazole for the patient complaints like epigastric tenderness (50%) pain in the upper abdomen (45%) and heart burn (30%) and prophylaxis with NSAIDS (65%) and gastric ulcer (80%). But 65% of the doctors felt that prophylactic use of omeprazole with short term NSAIDS therapy is unnecessary in the absence of evidence for peptic ulcer disease. The reason for omeprazole usage was treatment of duodenal ulcer (96%), gastric ulcer (64%) and prevention of upper GIT bleeding (16%) while pain in the epigastrium accounted only for 10% of the prescription.

Table 1: Reason for prescribing Omeprazole (no. of cases)

Ulcer	Pain in Upper Abdomen	Epigastric Tenderness	Gastric Ulcer	Duodenal Ulcer	Upper GIT Bleeding
Base line Study Phase	30	28	50	53	39
Post Guide line Phase	20	11	24	32	30

Table 2: Comparative in-patient utility of Omeprazole Tablets

Year	January	February	March	April	May	June
2004	4000	3400	3500	3900	3600	3800
2005	3400	3100	2900	2800	3200	3000

More than 18% reduction in the usages was noticed in the study period compared to 2004. The total hospital consumption of omeprazole tablets (inpatient and outpatient) during the study period recorded a 10% decrease compared to the previous year.

Discussion

The audit has shown that around 20% of the patients getting admitted to GH for what ever reason are being prescribed with omeprazole. The increased utilization noticed among women is likely due to the nature of the words selected for the audit. Surgeons and physicians were found to be the main prescribers of omeprazole. Their prescriptions were less during post guideline phase indicating the impact of guidelines. Personal visitors to the clinician's office ensured 100% response rate to the questionnaire and relevant topics were discussed during the clinical meeting. Much stress was given to NSAIDS since prophylactic use of omeprazole with NSAIDS was the main reason for prescribing omeprazole during the baseline study. During the final phase, doctors showed a tendency to initiate omeprazole therapy only after any complaints of gastric irritation by the patient which gave evidence for the impact of the guidelines. Use of ranitidine and antacids were encouraged since they have better results to compared omeprazole for short term or acute use.

The indications for omeprazole usage according to the guide lines included prophylaxis with NSAIDS, gastric ulcer, duodenal ulcer, epigastric tenderness. The prophylactic use of omeprazole with NSAIDS was indicated only to those patients with a history of peptic ulcer disease or those on

long term treatment with NSAIDS for arthritis. Qualitative comparison of omeprazole was difficult without interpretations due to poor case sheet documentation by the prescribers.

The total number of prescriptions for omeprazole in hospital during the studying period and the corresponding period of the previous year was obtained from the central pharmacy. A reduction in the number of omeprazole prescriptions was recorded even during the baseline phase, compared to the same period in the previous year. Lowest number of prescription of omeprazole tablets in the hospital is decreased from 22,200 in (January – June) 2004 to 18,400 over the same period in 2005. This brought about a moderate savings of fifteen thousand rupees to the pharmacy.

The guidelines were not meant to restrict the prescribing pattern of the doctors. Doctor had an initial apprehension towards the program, but once the objectives and benefits were made clear, their cooperation was one hundred percent. The drug audit of omeprazole in GH brought about the awareness on cost effective drug therapy among the health care professionals. The program had significant impact on rationalizing the omeprazole prescription and promoted cost effectiveness of drug therapy. Impact of the program was seen at both in-patient and out-patient departments. Drug utilization audits should become a part of pharmacy department's routine activities so that safe and cost effective drug therapy will be ensured.

References

1. Stolar MH, American Journal of Hospital Pharmacy, 1987, 35, 76.
2. ASHP Council on professional Affairs, American Journal of Hospital Pharmacy, 1988, 45, 385.
3. Algozzine GJ, Sprenger RL, Caselnova DA, Proper P, American Journal of Hospital Pharmacy, 1989, 46, 1183.
4. Santora J, Kitrenos JG, Green ER, American Journal of Hospital Pharmacy, 1990, 47, 1346