

## **Drug utility pattern of antiulcer agents used in osteoarthritis patients at tertiary care hospital**

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### **ABSTRACT**

**Background:** Osteoarthritis is the most common form of joint disease and the leading cause of pain in elderly people. Osteoarthritis (OA) is a progressive and painful chronic disease that mainly affects knee, hand and hip joints.

Aim of study was to evaluate current trend of antiulcer drugs and to assess the group of antiulcer agents use in osteoarthritis patient.

**Methods:** A prospective observational study was conducted in a tertiary care hospital for period of twelve months in collaboration with department of orthopaedics. Patients data recorded in case report form and analysed to study prescription pattern and related information

**Results:** Total of 630 cases were enrolled in this study. Prescribed antiulcer drugs in OA were ranitidine, omeprazole, pantoprazole, rabeprazole, sucralfate and esomeprazole. Most commonly prescribed drug was Ranitidine i.e. 80.79% followed by omeprazole i.e. 8.42% pantoprazole i.e. 3.97% rabeprazole i.e. 3.81%, sucralfate i.e. 2.53% and esomeprazole i.e. 0.48% respectively. In this study, the commonest group prescribed was H2 blockers i.e. 80.79% followed by proton pump inhibitors i.e. 16.68%, and ulcer healing agent i.e. 2.53% respectively.

**Conclusions:** Most commonly prescribed drug was ranitidine followed by omeprazole, pantoprazole, rabeprazole, sucralfate and esomeprazole respectively. In this study, the commonest group prescribed was H2 blockers followed by proton pump inhibitors, and ulcer healing agent respectively.

**Keywords:** Antiulcer drugs, Drug utilization study, Osteoarthritis, Ranitidine

### **INTRODUCTION**

Drug utilization studies has purpose to study drugs utilization in large number of patients which will give support to rational use and cost effective use of the drugs Utilization studies are undertaken due to upcoming of more and more drugs in the market.

Osteoarthritis is the most common form of joint disease and the leading cause of pain in elderly people.<sup>1</sup> Osteoarthritis (OA) is a progressive and painful chronic disease that mainly affects knee, hand and hip joints. Pain symptoms associated with osteoarthritis result in

increased physical and walking disability.<sup>2,3</sup> Symptoms such as pain and inflammation become visible in middle age and may become worse with the age. Disease burden is related to pain occurrence, frequently leading to functional disability ranging from slight limitation of movements to severe impairment of normal daily living activities. Therefore, pain relief plays an important role in the treatment of OA.<sup>4</sup>

The main objectives in the management of Osteoarthritis are to reduce symptoms and functionality or even halt the progression of structural changes. Management of OA starts with the simple approaches like weight loss (in obesity), exercise, lifestyle alterations, use of analgesics

and topical agents. Therapeutic measures consist of non-pharmacological (e.g. patient education and physical therapy), pharmacological (e.g. the use of analgesics, non-steroidal anti-inflammatory drugs (NSAIDs) and ultimately surgical treatments (i.e. joint replacement).<sup>5</sup>

As NSAID are the important drugs in the treatment of OA, the main target of NSAID toxicity is gastrointestinal tract (GIT). It is the most frequent organ affected by adverse drug reactions and can be fatal. About 30% of these users may develop GI toxicity of sufficient degree requiring a physician's intervention. Indian studies have shown in clinical practice that at least 10 to 20 percent of patients have dyspepsia while taking an NSAID, although the prevalence may range from 5 to 50 percent. The risk in patients with osteoarthritis is somewhat lower (7.3 per 1,000 patients per year).<sup>6,7</sup>

**Primary objective**

- To study different types of antiulcer drugs used in osteoarthritis patient.
- To study the group of antiulcer drugs used in osteoarthritis patient.

**Secondary objective**

- To study and evaluate the prescribing patterns of drugs used in Osteoarthritis patient.

**METHODS**

The present study was conducted in Department of Pharmacology in collaboration with Department of Orthopaedics for a period of one year at a Tertiary care hospital All newly diagnosed patients of osteoarthritis receiving treatment attending the outpatient department of orthopaedics for complains of osteoarthritis were included. During the period a total 630 patients of osteoarthritis were found to be attending orthopaedic department OPD. Hence, total 630 sample size was selected for study.

A prospective observational study was conducted in a tertiary care hospital for a period Feb 2017-Jan 2018 were reviewed Data from the patient is recorded in case record form and was analysed for prescription pattern of drug.

**Inclusion criteria**

- Patients of either sex with age greater than 50 years, diagnosed with osteoarthritis receiving NSAID along with Antiulcer drugs at orthopaedic department of tertiary care hospital
- Patients who are willing to participate in the study.

**Exclusion criteria**

- Patients with past history of gastrointestinal, renal and liver disease or any psychiatric illness and with surgical indications for the management of osteoarthritis are excluded from the study
- Patients who are not willing to participate in the study
- Patients who are not ready to give informed consent.

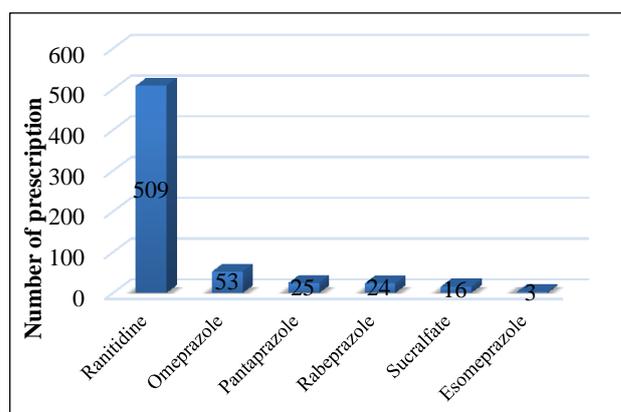
**RESULTS**

Present study was conducted in Department of Orthopaedics in which patient from OPD were studied for a period of twelve months, in which 630 patients of diagnosed osteoarthritis were enrolled. Prescribed antiulcer drugs were ranitidine, omeprazole, pantoprazole, rabeprazole, sucralfate and esomeprazole alone with NSAID. Assessment was done in age group >50 year of either sex, newly diagnose osteoarthritis patients. Present study assesses types of antiulcer drugs prescription and the type of group of drugs.

In this study, ranitidine which was most commonly used antiulcer prescription in 80% of patients followed by omeprazole and pantoprazole in 8.42% and 3.97% patients of osteoarthritis (Table 1).

**Table 1: Details of antiulcer agents used in OA patients.**

Antiulcer agents	Number of prescriptions	Percentage (%)
Ranitidine	509	80.79
Omeprazole	53	8.42
Pantoprazole	25	3.97
Rabeprazole	24	3.81
Sucralfate	16	2.53
Esomeprazole	3	0.48
Total	630	100



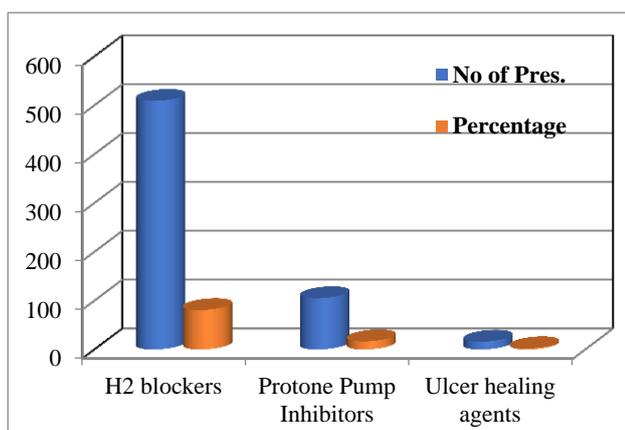
**Figure 1: Distribution of antiulcer agents used in OA patients.**

In this study, ranitidine was prescribed in the most number of patients followed by omeprazole followed by pantoprazole, rabeprazole, sucralfate and esomeprazole respectively (Figure 1).

In this study, group of antiulcer agents i.e. H2 blockers was prescribed in more number of patients (i.e. 80.79%) followed by proton pump inhibitors in i.e. 16.68% of osteoarthritis patients (Table 2 and Figure 2).

**Table 2: Details of group of antiulcer agents used in OA patients.**

Group of antiulcer drugs	Number of prescriptions	Percentage (%)
H2 blockers	509	80.79
Proton pump inhibitors	105	16.68
Ulcer healing drugs	16	2.53



**Figure 2: Details of group of antiulcer agents used in OA patients.**

## DISCUSSION

In this study antiulcer agents were also prescribed (Table 1) with each prescription of NSAIDs to counteract the gastrointestinal side effects, most common antiulcer agent prescribed in OA patient was ranitidine in 509 number of patients i.e. 80.79% followed by omeprazole in 53 number of patients i.e. 8.53% followed by pantoprazole in 25 number of patients i.e. 3.97% followed by rabeprazole in 24 number of patients i.e. 3.81% followed by sucralfate and esomeprazole which correlate with study shows that ranitidine was most common gastroprotective drug prescribed in osteoarthritis patients with 69.66% of patients followed by omeprazole in 17.79% of patients followed by rabeprazole and pantoprazole drugs were prescribed shows near about same findings as compared with present study.<sup>8</sup> The Study conducted pantoprazole was most common drug to be prescribed along with NSAIDs used for osteoarthritis patients followed by next common antiulcer agent was rabeprazole which was in contrast with our study.<sup>9-11</sup> The

study conducted by Famotidine was the most common prescribed antiulcer agents with NSAIDs, in contrast with our study.<sup>12</sup>

Our present study also showed the group of antiulcer agents that were prescribed most commonly along with the NSAIDs where H2 receptor antagonists i.e. ranitidine, followed by PPIs and ulcer protective agents respectively. Main aim of their use was NSAIDs associated peptic ulcer and gastrointestinal bleeding.<sup>13</sup>

## CONCLUSION

This study gives us an idea regarding the prescription pattern of drugs used in osteoarthritis patients. Ranitidine found to be most common prescribed drug followed by omeprazole, pantoprazole, rabeprazole, sucralfate and esomeprazole respectively. In present study regards to group of the drug prescription H2 receptor antagonists are commonly prescribe followed by proton pump inhibitors, and ulcer healing agents respectively.

The study concludes that the NSAIDs combined with a gastro protective agent were the most appropriate first-line NSAID therapy for many patients. To minimize the occurrence of gastrointestinal toxicity, it is advised to use the National Institute of Clinical Excellence (NICE) guidance.

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