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## Prevalence of Epigastric pain in patients taking oral NSAIDs alone versus those taking combination of NSAIDs and misoprostol

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### ABSTRACT

#### Objective:

This study was done to study degree of relationship between epigastric pain due to gastritis caused by use of NSAIDs.

#### Design:

This was observational type of study.

#### Duration and time:

This study was conducted at Mayo Hospital Lahore in General Outdoor patient department from July 2017 to December 2017.

#### Method:

Every patient taking oral NSAIDs or combination of oral NSAIDs and misoprostol twice daily from last two months was included in our study. Written consent form was signed by each patient to be part of study. A questionnaire was made to ask about symptoms of patient. The data obtained was analyzed using Microsoft excel and spss.

#### Results:

A total of 153 patients were included in our study. Patients taking only oral NSAIDs were 97(63.39%) whereas those taking combination of Oral NSAIDs and Misoprostol were 56 (36.60%). Among the patients who were taking oral NSAIDs alone 73(75.25%) developed epigastric pain whereas remaining 24( 24.74%) did not develop any such symptom. Out of the patients taking combination NSAIDs+ misoprostol only 11 (19.64%) developed epigastric pain others did not.

#### Conclusion:

Using NSAIDs can cause gastritis and thus should not be prescribed alone. Our study has very well established role of Misoprostol in protection of gastric mucosa against harmful effects of NSAIDs.

#### KeyWords:

Epigastric Pain, NSAIDs, Gastritis

### INTRODUCTION:

NSAIDs is the class of drug which inhibits Cyclooxygenase-1 and Cyclooxygenase-2 pathways in the synthesis of prostaglandins which are

involved in the inflammation. Their anti-inflammatory role is well established and thus these drugs are used in the treatment of Painful conditions like Rheumatoid arthritis, Osteoarthritis, Traumatic injury, Migraine, Tennis elbow, Acute gout, low back pain renal colic , menstrual pain and in any other painful conditions. NSAIDs are further divided into two types. Some are non selective which block both COX-1 and COX-2 and others are COX-2 selective which has less Gastrointestinal side effects<sup>[1][2][3][4][5]</sup>.

NSAIDs has many side effects however the most common side effects are gastrointestinal precisely gastritis. NSAIDs cause gastro intestinal side effects by two ways: direct action of acidic NSAID molecules and inhibition of gastroprotective prostaglandins by inhibiting COX-1<sup>[6]</sup>.

Diminished production of prostaglandins leads to increased gastric acid production and decreased bicarbonate production. It leads to an overall acidic medium in the stomach and damaging the gastric mucosa. Apart from gastritis, NSAIDs can cause Duodenal and Gastric ulcers as well. Patients of gastritis present with Nause, Upper GI abdominal pain, diarrhea and dyspepsia. Gastric ulcers present with post prandial epigastric pain whereas epigastric pain improves after meals in patients of gastric ulcers. In severe cases, Upper GI bleeding can be a serious consequence of NSAIDs abuse.

The extent of Gastrointestinal side effects vary. Indomethacin and piroxicam have very high side effects whereas Ibuprofen and Diclofenac have relatively lower risk of side effects

The treatment of NSAIDs induced gastritis includes stopping use of NSAIDs and use some other class for pain relief. Concomitant use of PPIs or gastro-protective misoprostol can diminish side effects of NSAIDs abuse.

### MATERIALS AND METHODS:

This study was an observational type of study conducted at Mayo Hospital Lahore from July 2017 to December 2017. The purpose of this study was



to establish the protective benefit of misoprostol against Gastrointestinal side effects caused by NSAIDs. Our study included only those patients who were using NSAIDs or combination of NSAIDs and misoprostol twice daily from last two month. Any patient not taking NSAIDs regularly was not included in our study. Every patient signed a written consent form to be the part of study. A preformed questionnaire was made to analyse symptoms. Data was analysed using Microsoft Excel 2010 and SPSS.

**RESULTS:**

A total of 153 patients were included in our study with mean age 42.6±2.2 with range from 36-49 years. 100(65.35%) patients were male whereas 53(34.64%) patients were female. Patients taking only oral NSAIDs were 97(63.39%) whereas those taking combination of Oral NSAIDs and Misoprostol were 56 (36.60%).Among the patients who were taking oral NSAIDs alone 73(75.25%) developed epigastric pain whereas remaining 24( 24.74%) did not develop any such symptom. Out of the patients taking combination NSAIDs+ misoprostol only 11 (19.64%) developed epigastric pain others did not. These results are depicted in figure-1

	Frequency	Percentage
Patients taking NSAIDS	97	63.39%
Patients taking combination of NSAIDS+Misoprostol	56	36.60%
Total	153	100%

Table-1: Frequency of patients taking NSAIDs versus those taking NSAIDs+Misoprostol Combination

Among the patients who were taking oral NSAIDs alone 73(75.25%) developed epigastric pain whereas remaining 24( 24.74%) did not develop any such symptom. Out of the patients taking combination NSAIDs+ misoprostol only 11 (19.64%) developed epigastric pain others did not.

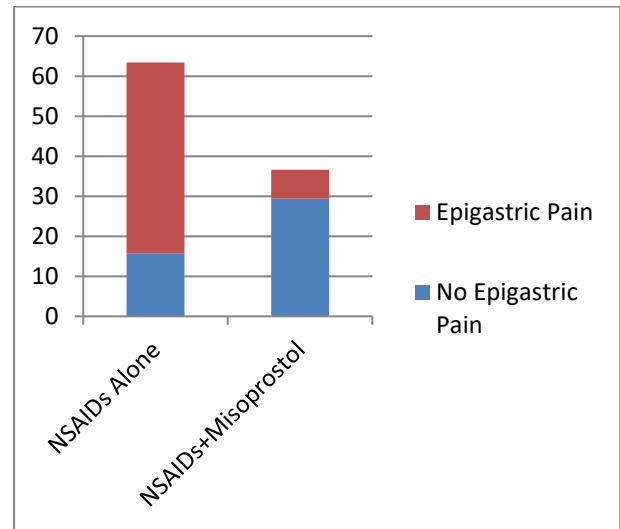


Figure 1: Comparison of development of epigastric pain in patients taking NSAIDs versus those taking NSAIDs+Misoprostol combination

A comparative analysis of development of Epigastric pain in males versus females was assessed as shown in table-2

			Patients developed Epigastric Pain	
			Yes	No
Patients Taking NSAIDs Only 97(63.93%)	Males	70(72.16%)	60(85.71%)	10(14.28%)
	Females	7(27.83%)	13(48.14%)	14(51.85%)
Patients Taking NSAIDs+Misoprostol 56(36.60%)	Males	30(53.57%)	9(30%)	21(70%)
	Females	26(46.42%)	2(7.69%)	24(92.30%)

It was observed that male patients who were taking NSAIDs alone, 85.71% of them developed epigastric pain in contrast to female patients among whom only 48.14% developed epigastric pain.

Similarly in male patients taking combination of Oral NSAIDs+Misoprostol, 30% developed epigastric pain whereas in female patients only 7.69% developed epigastric pain. This shows the

tendency of developing NSAIDs induced gastritis is higher in males.

**DISCUSSION:**

Our results clearly show that prevalence of GI side effects is higher in patients taking NSAIDs alone without any gastroprotective drug. These results are also inconsistent with another study conducted by J.L Goldstein<sup>[7]</sup>.





In patients using combination of NSAIDs and Misoprostol the GI side effects are less likely to occur as per our study and it is also similar to study conducted by K Shah<sup>[8]</sup>.

Another variable studied showed that the male patients have more tendency to develop NSAIDs induced gastritis than females. Although this was an incidental finding. This data is not supported by any literature review.

#### CONCLUSION:

Misoprostol provides significant protection against GI Side effects of NSAIDs. It is thus recommended that NSAIDs should not be used alone. There should be concomitant use of misoprostol or PPIs in patients taking NSAIDs to avoid its adverse effects. However, the contraindications of misoprostol use must be taken into account which include avoiding its use in women of child bearing age as it is an abortifacient<sup>[9]</sup>.

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