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NSAIDs INDUCED GASTROINTESTINAL COMPLICATIONS PROVED BY OESOPHAGOGASTRODEUDENOSCOPY

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Abstract

Background: To alleviate pain associated with rheumatic diseases, musculoskeletal or osteoarticular disorders, and other similar conditions, many people turn to non-steroidal anti-inflammatory medicines (NSAIDs). Chronic therapy is a major cause of morbidity and mortality, even though NSAIDs are usually well tolerated. In reality, patients on NSAIDs have a substantially greater risk of gastrointestinal events (complications). Researchers in pharmacology are looking into COX-2 inhibitors, a type of NSAID that shows promise in improving gastrointestinal tolerance. This is because the demand for nonsteroidal anti-inflammatory drugs (NSAIDs) is growing. The purpose of this research was to determine the frequency of gastrointestinal (GI) events in patients who took non-selective or selective non-steroidal anti-inflammatory drugs (NSAIDs) for three months or longer, either on their own or in conjunction with other antiplatelet medications (such as aspirin or clopidogrel). Methods and patients: 362 people who have experienced persistent gastrointestinal distress for at least three months were part of the cross-sectional and comparative investigation. Patients were retrieved from various healthcare facilities, including emergency rooms, rheumatology clinics, general inpatient wards, and medical counseling clinics. We followed the OGD protocol as the method for diagnosis.

Results To determine the impact on the GI system, the study compares four groups. A control group without NSAID use and gastrointestinal problems constitutes the first group. Second group with GI problems on NSAIDs. Class IIIa patients are experiencing gastrointestinal side effects while using COXIBs. Aspirin and clopidogrel members in the fourth group experienced gastrointestinal issues while taking a combination of COXIBs and antiplatelet medication. Final Product 1) Information on the patients: 362 individuals participated in this research. The birth ratio

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was 1:1.14, with a male-to-female ratio of 193:169. This study included patients with ages ranging from 18 to 76, with a mean of 51 ± 6.5 years. The average duration of the condition was 1.9 ± 1.58 years, with a range of 0.25 to 10 years. When it comes to the use of nonsteroidal anti-inflammatory drugs (nsNSAIDs), there is no statistically significant link between age and the number of stomach problems in the groups that were looked at (p = 0.74). 2) The endoscopic findings and OGD records show that out of 362 procedures, 57 had normal findings (15.74%), and 305 had positive gastrointestinal consequences (events), for a total of 84.26%. 3) Histopathological characteristics; a biopsy was used to diagnose 34 out of 305 cases (11.2%). 4) GI complication prevalence in patients taking nsNSAIDs compared to those not taking them; 42 cases with no history of nsNSAID use had a prevalence of 26.1%, while 131 cases (97.7%) of 134 cases with positive GI problems had a history of nsNSAID use. (o.oo1) with a p-value of 0.003. When compared to patients who do not take NSAIDs, the risk of gastrointestinal (GI) events caused by these drugs can increase by 3.74 times (97.7% / 26.1%). 5) Compared to individuals on COXIBs, the prevalence of gastrointestinal (GI) issues in patients taking nsNSAIDs is lower: 131 (97.7%) out of 134 patients on nsNSAIDs have GI complications, whereas 62 (80%) out of 77 patients on COXIBs have GI complications. Those on nsNSAID had a statistically significant increase in gastrointestinal events (p = 0.039), while those on COXIB had a statistically significant increase (p = 0.03). 6) The frequency of gastrointestinal (GI) problems in patients taking nonsteroidal anti-inflammatory drugs (nsNSAIDs) is lower than in individuals taking a combination of corticosteroids and antiplatelets (101 out of 109 patients with a history of GI difficulties on COXIBs and antiplatelets vs 131 out of 134 patients). Patients taking COXIB plus antiplatelet medication had a substantially higher risk of gastrointestinal problems (p = 0.015), as did those taking nonsteroidal anti-inflammatory drugs (nsNSAIDs) (p = 0.05). In conclusion, nonsteroidal anti-inflammatory drugs (NSAIDs) continue to be the leading cause of gastrointestinal (GI) problems, while nonsteroidal anti-inflammatory drugs (nsNSAIDs) are not as common in COXIBs. Using COXIBs in conjunction with other antiplatelet medications increases the risk. Aim of the Study We used a variety of nonsteroidal anti-inflammatory drugs (NSAIDs) to demonstrate endoscopic features of gastrointestinal (GI) issues in patients. to find out what happens when COXIBs and antiplatelet drugs are taken together.

Keywords: NSAIDs nonsteroidal anti-inflammatory drugs, gastrointestinal(GI) problems, antiplatelet drugs , COXIBs..

INTRODUCTION

The analgesic and anti-inflammatory effects of non-steroidal anti-inflammatory medicines (NSAIDs) make them the most prescribed pharmaceuticals in the world. Pain from rheumatic diseases, which affect a large percentage of the population, and musculoskeletal or osteoarticular disorders are two common indications for the prescription of nonsteroidal anti-inflammatory drugs (NSAIDs). Annually, NSAID prescriptions reached almost 15% of the global population. Chronic administration of NSAIDs is associated with a high incidence of adverse gastrointestinal events, which is about four times greater in patients undergoing this treatment, despite the fact that these

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drugs are often well-tolerated (1). Some epidemiologic and clinical investigations have shown a decreased incidence of colon cancer in patients receiving low-dose aspirin (2), demonstrating the favorable benefit profile of NSAIDs and aspirin in pain alleviation, inflammation reduction, and cancer prevention. Low-dose aspirin therapy effectively lowers the risk of death and significantly lowers cerebrovascular incidents and cardiovascular (CV) events in people who have cardiovascular risk factors and a history of CV events. However, a small but considerable number of patients experience adverse gastrointestinal events (AEs) as a result of NSAID treatment, leading to a substantial amount of morbidity and death (3). As an example, there were over 100,000 hospitalizations and 15,000 fatalities in the United States in 2016 due to adverse events associated with nonsteroidal anti-inflammatory drugs (NSAIDs) (4). Non-selective NSAIDs (nsNSAIDs) inhibit both cyclooxigenase-1 (COX1) and cyclooxigenase-2 (COX2). In example, COX1 causes the release of prostaglandin (PG), a protective mechanism in the upper gastrointestinal tract, although these two enzymes have distinct functions in the cell. In the last ten years, researchers created selective COX-2 inhibitors (COXIBs) to reduce NSAID-related toxicity to the upper gastrointestinal tract. Clinical investigations indicated that patients receiving COXIBs had a decreased relative risk of having upper GI damage, and COXIBs modestly inhibit COX1. (4) How NSAID-induced peptic ulcers develop: Protective and damaging factors Protective measures There is a comprehensive biological defense system in the upper gastrointestinal tract (GI) that helps prevent and treat injuries caused by endogenous (HCl, pepsin, and bile acids) and exogenous (drugs, alcohol, and germs) harmful chemicals that the gastroduodenal mucosa is constantly exposed to. Pre-epithelial, epithelial, and post-epithelial defenses worked together in a complex way to keep the mucosa from getting damaged and to keep its integrity. (33) The bicarbonate barrier and mucus that are released by the epithelial cells of the upper gastrointestinal tract make up the pre-epithelial defense stage. The hydrophobic barrier that mucus forms blocks the flow of ions and compounds like pepsin. Water (95%), lipids (fatty acids and phospholipids), and glycoprotein (mucin) make up its composition. By entering the mucus layer directly, bicarbonate creates a strong pH gradient (6-7) that can counteract acidity in the lumen even when the pH drops below 2. (33) The epithelial defense layer is made up of a continuous layer of gastrointestinal epithelial surface cells that are connected by tight junctions. These complexes form an acidic barrier that prevents water-soluble agents and hydrogen ions from diffusing through the mucosa. Basolateral ion pumps, like a Cl^-/HCO_3 exchanger and a Na^+/H^+ pump, can also get rid of any hydrogen ions that get into the epithelial cells. The 33rd line of defense is the rich vascular system under the mucosa, which is located after the epithelium. Blood flow continuously brings in oxygen, nutrients needed for cellular metabolism, and bicarbonate to balance out acid releases. It also gets rid of all harmful catabolites. Thirteen gastrointestinal injuries can happen when the caustic acid-peptic factors in the gastrointestinal lumen are too strong for the three parts of the epithelium defense system or when those defenses aren't working properly. (3) Ways in which harm can occur Systemic effects mostly associated with COX inhibition and topical damage both contribute to NSAID-induced upper gastrointestinal injury. The pharmacological properties of these medications directly cause topical harm. NSAIDs, which stand for non-steroidal anti-inflammatory drugs, are weak acids that stay in the acidic stomach environment in a state that doesn't involve ions or lipophilia. Ion trapping happens when NSAIDs can get through the cell

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membrane, which is hydrophobic, and into the cell. Once inside, their neutral pH makes it impossible for them to leave in their ionized form. When hydrogen ions are released into the cell, they do damage. They stop oxidative phosphorylation, which lowers the production of energy in the mitochondria and makes the cell less stable. (14) Blocking GI mucosal COX with NSAIDs, no matter how the drug is administered, can cause clinically significant GI toxicity. NSAID-related damage was thought to mostly happen on the surface, but it is now clear that systemic effects are responsible for most NSAID-related gastrointestinal injuries. In humans, two types of COX have been found: COX-1 and COX-2. COX changes arachidonic acid into prostaglandins (PGs) that are active. COX-1 is found in almost all human cells and is necessary for maintaining cellular homeostasis (protecting the stomach, controlling blood flow, the effect of platelets clumping together, and kidney function). On the other hand, COX-2 is found in cells that are exposed to inflammatory signals (cytokines or chemokines) or growth factors. (15) The two isoforms of COX exhibit distinct features of expression in human cells and substrates. (33) Cells in the stomach These molecules ensure the mucosal coating's protection against the caustic impact of acid and pepsin in several ways; COX-1 is the rate-limiting enzyme in PGs production. 1) PGs decrease the production of stomach acid. 2) Encourage the formation of phospholipids, bicarbonate, and glycoprotein (mucin) by epithelial cells. Thirdly, by vasodilating, PGs ensure blood flow across mucosal surfaces and the supply of oxygen. Encourage the migration of epithelial cells towards the luminal surface while restoration is underway. 5) Promote the growth of new cells. (16) To achieve an effective anti-inflammatory effect and maintain PG-mediated gastrointestinal mucosal protection, researchers have focused on developing new molecules with a COX-2 selective inhibitory effect in recent decades. This is because most non-selective NSAIDs block both COX-1 and COX-2, which makes it very hard for the stomach to make PG. (17) Early research on the safety of COXIBs in the digestive system showed positive results (18). Compared to ibuprofen, rofecoxib seemed to be the safer choice, with a rate of GI events that was about the same as the placebo group. Still, the initial excitement about COXIBs' safety in the digestive system was overshadowed by growing evidence of their serious effects on the heart, including high blood pressure, swelling, heart failure, and acute coronary syndrome. These effects were so severe that they led to the withdrawal of some of these drugs from the market, including rofecoxib, precoxib, and valdecoxib. At therapeutically effective doses, COXIBs inhibit COX-1 but only to a lesser extent, blocking the production of PGs dependent on COX-1 in the gastrointestinal mucosa. As a result, the risk of gastrointestinal events is greatly reduced, but not eliminated, by COXIBs. In addition, similar to non-naproxen NSAIDs, COXIBs raise the risk of cardiovascular disease (CVD) due to their pro-aggregating effects. By selectively blocking COX-2, an imbalance forms between the COX-2-dependent production of PG in endothelial cells and the COX-1-dependent production of TxA_2 in platelets, with platelets showing higher activity. Patients with CV disease are now strongly discouraged against using COXIBs (30).

Patients and Methods

The Al-Kadhimyia Teaching Hospital in Baghdad was the site of an observational, cross-sectional, comparative study, which ran from 2009 to 2012. We recruited 362 individuals who had suffered from chronic gastrointestinal distress for at least three months in a row. We gathered our patients

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from various healthcare facilities, including emergency rooms, rheumatology clinics, general wards, and outpatient clinics. To identify GI problems, this study relies on an OGD method. Patients who met all of the following exclusion criteria and who suffered from persistent gastrointestinal distress were allowed to participate in the study: I must You must be at least 18 years old.sence of any alcoholic background. Section III: Absence of smoking III. No steroid use in the past. V. No sign of gastric ulcers in the past. If you've been experiencing a string of gastrointestinal symptoms for longer than three months, you might be suffering from a gastrointestinal upset. These symptoms can range from nausea and vomiting to heartburn, epigastric pain, hunger pain, flatulence, and bleeding (in the form of coffee grounds, hematemesis, melena, or hematochezia). OGD can disclose GI events (complications) either visually or histopathologically through biopsy of the esophagus, stomach, and duodenum, which can reveal inflammation. We used the OGD method as an investigative tool to confirm gastrointestinal issues in the individuals under investigation. Experiencing chronic gastrointestinal distress for a minimum of three months (21). Participating groups were as follows: • Group 1 (control group): 42 patients who did not take any nonsteroidal anti-inflammatory drugs. 134 patients in Group 2 were prescribed nonsteroidal anti-inflammatory drugs. 77 patients in Group 3 were prescribed COXIBs. Group 4 administered a combination of COXIBs and antiplatelet agents to 109 individuals. Data analysis using statistical methods Tables dispThe table presents the results of a comparison of gastrointestinal events detected by OGD, either overtly or histopathologically, with respect to age, sex, and patient presentation. the identification of four patient groups (as previously stated), SPSS version 14 was used for statistical analysis of the differences between the groups with respect to the variables of interest.

Statistical Analysis

Significant result was defined as a P value less than 0.05.duct Details about the patients: This research included 362 individuals with a history of persistent gastrointestinal distress. There were 193 males and 169 females, for an emergence ratio of 1:1.14. Patients' ages range from eighteen to seventy-six, with an average of fifty-one years divided by six and a half. The average duration of the condition was 1.9 ± 1.58 years, with a range of 0.25 to 10 years.

Results

There is no statisticaThere is a statistically significant relationship between age and the occurrence of gastrointestinal problems across groups that report using nonsteroidal anti-inflammatory drugs (nsNSAIDs) or not ($p = 0.74$). 3. Results of the Endoscopy: The results can be shown In Table 1, OGD was present in 57 cases (15.74%). was normal. Among 305 cases (84.26%), The following were found: 1) pangastriopathy, and 9 97% loose cardiac function. 2. Erosive duodenitis affected 63% of patients. 33% of patients suffered from GERD, varying in severity. 4. Pimples on the skin's surface 32%. 5) 17% have one or more ulcers.

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* Many cases have combined lesions .

Patients group		Total No.	GI . Complication	Pangastropathy & Lax cardia	Erosive Duodenitis	GERD	Superficial Ulcer	Single Or Multiple Ulcer
No NSAIDs*		42	11 (26.1%)	9	2	3	4	2
NSAIDs	nsNSAIDs*	134	131 (97.7%)	128	81	31	42	23
	COXIBs*	77	62 (80%)	61	39	14	19	11
	Combination*	109	101 (92.6%)	98	70	22	33	16
	Total NO.	362	305 (84.3%)	296	192	70	98	52

Table 1 ; Endoscopical findings regarding GI complications .

Histopathological features ;

Since OGD can visualize only the gross appearance of the GI , biopsy was taken in mysterious cases to detect GI complications , as follows in table (2);

Patients group		Total positive GI complication	OGD	BIOBSY
No NSAIDs*		11	9(81.8%)	2(18.2%)
NSAIDs	nsNSAIDs*	131	119(90.8%)	12(9.2%)
	COXIBs*	62	55(88.7%)	7(11.3%)
	Combination*	101	88(87.1%)	13(12.9%)
	Total NO.	305	271(88.8%)	34(11.1%)

Table (2) ; Histopathological findings in mysterious cases during OGD .

Prevalence of GI complications in patients receiving nsNSAIDs comparing with patients who are not ;

42 patients with chronic GI upset , (who are on no nsNSAIDs) , undergo OGD procedure , revealing 11 case with positive GI complications , giving 26.1%(11/42). Another 134 patients with chronic GI upset (who are on nsNSAIDs) , do OGD procedure , revealing 131 case with positive GI complications , giving 97.7% (131/134) . So , nsNSAIDs can cause an increase by 3.74 folds(97.7% /26.1%) regarding GI complications comparing with patients who are not on NSAIDs .

131(97.7%) of the 134 with positive GI complications had positive history of nsNSAIDs Vs 11(26.1%) of the 42 with positive GI complications & no history of nsNSAIDs . (p value =0.003 & o.oo1)see tale(3).

Table 3: comparison between positive & negative GI complications in patients on nsNSAIDs.

	Patient	Mean age	GI positive	GI negative
nsNSAIDs positive	**134**	**39.3 ± 13.7**	**131**	**3**
nsNSAIDs negative	**42**	**37.4 ± 10.7**	**11**	**31**
P value		**0.74**	**0.003**	**0.001**

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Prevalence of GI complications in patients receiving nsNSAIDs comparing with COXIBs ; 131(97.7%) of 134 patients have positive GI complications (who are on nsNSAIDs) Vs 62 (80.5%) of 77 patients have positive GI complications & and are on COXIBs . GI events were significantly increased in patients on nsNSAID (p =0.039) , also they are significant in patients on COXIB (p= 0.03) . see table(4)

Table 4: GI events in patients on NSAID comparing with COXIB

Group	Patients	GI positive	GI –VE	P value
nsNSAID	**134**	**131**	**3**	**0.039**
COXIB	**77**	**62**	**15**	**0.03**

6 Prevalence of GI complications in patients receiving nsNSAIDs comparing with combination of COXIBs & antiplatelet ;

131(97.%) of 134 patients have history of positive GI complications & on nsNSAIDs , Vs 101(92.6%) of 109 patients with positive GI complications & on COXIBs +antiplatelet . GI events were significantly increased in patients on COXIB + antiplatelet (p =0.015) , also they are significantly increased in patients on nsNSAIDs (p= 0.05) . see table(5);

Table 5:- GI events in patients on. COXIB + antiplatelet comparing with patients on nsNSAIDs

	Total No.	GI positive	GI –VE	P value
nsNSAIDs	**134**	**131**	**3**	**0.045**
COXIB + antiplatelet	**109**	**101**	**8**	**0.015**

Discussion

When things get tricky, an OGD procedure along with a histopathological biopsy can help doctors understand gastrointestinal (GI) problems better. (22) Both theoretical and empirical evidence point to a clear correlation between gastrointestinal (GI) problems and COX-inhibitor use. 1, 3, 5, 12, 18, 22, 26, 30 Patients with positive gastrointestinal problems were categorized into the following groups in this study: As a control group, 42 patients in Group 1 did not take any nonsteroidal anti-inflammatory drugs. 134 patients in Group 2 were prescribed nonsteroidal anti-inflammatory drugs. 77 patients in Group 3 were prescribed COXIBs. 109 individuals in Group 4 were given a combination of COXIBs and antiplatelet agents. They were in agreement with the exclusion criteria for gastrointestinal issues, which include being at least 18 years old, never having smoked, never having been an alcoholic, never having used steroids, and never having had peptic ulcers. After that, the study compares them to a control group that also has the same criteria for exclusion. One of the dependent risk factors is age, as proven in the recommendation by Langman MJS, Weil J, Wainwright P, et al. (7). Although the ages of the participants in the various groups were different, statistically speaking, all of the groups with positive GI problems were similar with respect to age and exclusion criteria. More patient groups (134, 77, and 109 patients) and younger patients (mean age of all patients 51 ± 6.5 years) than control cases (42 patients). This is because it was hard to find age-matched control groups that did not use different COX inhibitors (either alone or in combination). This difficulty is likely due to the fact that these drugs are commonly prescribed by doctors or even used by patients themselves. There aren't always persuasive grounds

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to convince younger individuals that they require OGD; for example, nonsteroidal anti-inflammatory drugs (NSAIDs) are a major contributor to gastrointestinal erosions and ulcers. It's worth noting that the significant prevalence of musculoskeletal and cerebrovascular diseases causes the use of NSAIDs to increase with age. It was the researcher's intention to find out whether age is a dependent risk factor for the incidence of GI problems, but there was no statistical significance (p value = 0.74) indicated regarding age as a risk factor among the patient groups and the control group. The statistical results from this local study at Al-Kadhimiya hospital are similar to those from international studies conducted on the internet. Any small discrepancies are explained and examined in detail in the next topic {Limitations of study}. The study confirmed what is often known: that using nsNSAIDs increases the risk of gastrointestinal (GI) issues. Specifically, 97.7 percent of patients in group 2 experienced GI complications, compared to 26.1 percent in group 1 or the control group. Thus, nsNSAIDs have the potential to cause a 3.74-fold rise. Researchers (Shaheen NJ, Hansen RA, Morgan DR, et al.) confirmed this assumption by showing that individuals on long-term NSAIDs have a fourfold increased risk of gastrointestinal problems (1). Also, compared to the general population, 20–40% of people who take long-term NSAIDs have gastroduodenal mucosal injury as seen on endoscopic examination (5), as reported by MacDonald TM, Morant SV, Robinson GC, et al. Somerville K, Faulkner G, and Langman M, et al. (12) say that there may be signs of inflamed mucosa, gastritis, or duodenitis at the cellular level even if there are no grossly endoscopic findings. This could suggest that the onset of gastrointestinal symptoms does not necessarily predict the development of NSAID-related injury (gastropathy or ulcers). Of the total 305 (11.1% of the total) cases of positive gastrointestinal problems, 34 were verified via biopsy. It was discovered that taking COXIBs was statistically linked to a higher risk of gastrointestinal problems, though not as much as taking non-steroidal anti-inflammatory drugs (nsNSAIDs). This association was demonstrated in the following studies: Weil et al., Langman MJ, Wainwright P, Abraham NS, Hlatky MA, Antman EM, Bhatt DL, FitzGerald GA, Patrono et al., Bombardier C, Laine L, Reicin A, Shapiro D, et al., Lanas A, Baron JA, Sandler RS, Horgan K, et al. With p-values of 0.039 and 0.03, respectively, the local study verified this. Acetylsalicylic acid seems to get rid of the safety profile of COXIBs in the gut, even when used in small amounts, according to the Silverstein FE and Schnitzer TJ groups. When COX-2 selective inhibitors are mixed with aspirin, the total gastrointestinal toxicity is about the same as when regular nonsteroidal anti-inflammatory drugs (NSAIDs) are used. However, taking these inhibitors by themselves could greatly lower the GI adverse effects. The results of the regional research corroborated this (p = 0.045 & 0.015). Study Restrictions • There are currently no well-standardized diagnostic assays, making OGD a challenging tool for the diagnosis of GI events. We rely solely on outward appearances often; therefore, I save biopsies for cases that don't make sense. The OGD method is also dependent on the individual. - Sample size is medium. • Our approach also has the drawback of often relying on patients' memories and ability to determine if they have taken a medicine that could cause gastrointestinal distress. • Many patients weren't really invested in the study since they were nervous about completing OGD, which could have impacted the outcomes if they had participated. We also need to repeat OGD after finishing the PPIs course to look for significance and link to the offending risk factor, which is a limitation of our study. • Our hospital's recurring unavailability prevents us from taking into account the high prevalence of HP

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infection. This can be reduced by performing OGD again after PPIs and anti-Hp infection treatments have been completed. • For social and religious reasons, many patients were unfaithful when it came to information regarding alcohol and smoking.

Conclusion

Our findings indicate that NSAIDs are associated with an increased risk of gastrointestinal problems. • The risk of gastrointestinal events (GIEs) is less with COXIB use compared to non-steroidal anti-inflammatory drugs (nsNSAIDs), although it is still considerable. • The risk of gastrointestinal problems is higher when using COXIB in combination with other antiplatelet medications, such as aspirin or clopidogrel, compared to when using COXIB alone. COXIB use has been limited because it raises the risk of heart disease and lowers the benefit for the digestive system in people who take antiplatelet drugs. For primary CV prevention, elderly patients on low-dose aspirin regimens should use COXIB medications with caution. The patient has a history of cardiovascular events. individual who possesses cardiovascular risk factors [1]. Long-term use of nonsteroidal anti-inflammatory drugs (nsNSAIDs) at the highest dose is a clear sign that COX-2 selective inhibitors should be prescribed. Be over the age of 65. • The patient's medical history includes a peptic ulcer. Ideas suggested To address the aforementioned limitations, future research should concentrate on gastrointestinal complications in the same populations.

Recommendations

It is recommended to repeat OGD after the course of PPIs and anti-HPV infections is finished to determine the importance and relationship to the specific risk factor. 3. Bearing in mind that HP infections are a major risk factor for criminal activity.

References

1. Shaheen NJ, Hansen RA, Morgan DR, et al. The burden of gastrointestinal and liver diseases, 2006. Am J Gastroenterol. 2006;101:2128 –38.
2. Din FV, Theodoratou E, Farrington SM, Tenesa A, Barnetson RA, Cetnarskyj R, Stark L, Porteous ME, Campbell H, Dunlop MG. Effect of aspirin and NSAIDs on risk and survival from colorectal cancer. Gut. 2010 Dec;59(12):1670-9.
3. Abraham NS, El-Serag HB, Johnson ML, Hartman C, Richardson P, Ray WA, Smalley W.National adherence to evidence-based guidelines for the prescription of nonsteroidal anti inflammatory drugs .Gastroenterology .2005 Oct; 129 (4): 1171 -8 .
4. Weil J, Langman MJ, Wainwright P, *et al.* Peptic ulcer bleeding: accessory risk factors and interactions with non-steroidal anti-inflammatory drugs. *Gut* 2000;46:27–31.
5. MacDonald TM, Morant SV, Robinson GC, et al. Association of upper gastrointestinal toxicity of non-steroidal anti-inflammatory drugs with continued exposure: cohort study. BMJ 1997;315:1333-7.
6. Anon. Recommendations for the medical management of osteoarthritis of the hip and knee: 2000 update. American College of Rheumatology Subcommittee on Osteoarthritis Guidelines. Arthritis Rheum 2000;43:1905-15.

Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5

7. Langman MJS, Weil J, Wainwright P, et al. Risks of bleeding peptic ulcer associated with individual non-steroidal anti-infl ammatory drugs. Lancet 1994; 343: 1075–78.
8. Lanas A. Review article: recommendations for the clinical management of patients taking non-steroidal anti-inflammatory drugs – a gastroenterologist's perspective. Aliment Pharmacol Ther 2005;1:16-19
9. Lanza FL, Chan FK, Quigley EM. Guidelines for prevention of NSAID-related ulcer events. Am J Gastroenterol 2009;104:728-38.
10. Lanza FL, Fakouhi D, Rubin A, Davis RE, Rack MF, Nissen C, et al. A double-blind placebocontrolled comparison of the efficacy and safety of 50, 100, and 200 micrograms of misoprostol q.i.d. in the prevention of ibuprofen-induced gastric and duodenal mucosal lesions and symptoms. Am J Gastroenterol. 1989;84:633–6.
11. Hawkey C, Talley NJ, Yeomans ND, Jones R, Sung JJ, Langstrom G, et al. Improvements with esomeprazole in patients with upper gastrointestinal symptoms taking nonsteroidal antiinflammatory drugs, including selective COX-2 inhibitors. Am J Gastroenterol. 2005;100:1028–36.
12. Somerville K, Faulkner G and Langman M. Non-Steroidal anti-inflammatory drugs and bleeding peptic ulcer. Lancet 1986; 327: 462-4
13. Malfertheiner P, Chan FK, McColl KE. Peptic ulcer disease. Lancet. 2009 Oct 24;374(9699):1449-61.
14. Sostres C, Gargallo CJ, Arroyo MT, Lanas A. Adverse effects of non-steroidal anti-inflammatory drugs (NSAIDs, aspirin and coxibs) on upper gastrointestinal tract. Best Pract Res Clin Gastroenterol. 2010 Apr;24(2):121-32.
15. Wallace JL, McKnight W, Reuter BK, Vergnolle N. NSAID-induced gastric damage in rats: requirement for inhibition of both cyclooxygenase 1 and 2. Gastroenterology. 2000;119:706 –14.
16. Brzozowski T, Konturek PC, Pajdo R, Ptak-Belowska A, Kwiecien S, Pawlik M, Drozdowicz D, Sliwowski Z, Brzozowski B, Konturek SJ, Pawlik WW. Physiological mediators in nonsteroidal anti-inflammatory drugs (NSAIDs)-induced impairment of gastric mucosal defense and adaptation. Focus on nitric oxide and lipoxins. J Physiol Pharmacol. 2008 Aug;59 Suppl 2:89-102.
17. Malfertheiner P, Chan FK, McColl KE. Peptic ulcer disease. Lancet. 2009 Oct 2749699):1449-61.
18. Laine L, Harper S, Simon T, Bath R, Johanson J, Schwartz H, Stern S, Quan H, Bolognese J. A randomized trial comparing the effect of rofecoxib, a cyclooxygenase 2-specific inhibitor, with that of ibuprofen on the gastroduodenal mucosa of patients with osteoarthritis. Rofecoxib Osteoarthritis Endoscopy Study Group. Gastroenterology. 1999 Oct;117(4):776-83
19. Lauer MS. Aspirin for primary prevention of coronary events. *N Engl J Med.* 2002;346:1468–1474.
20. Silverstein FE, Faich G, Goldstein JL, Simon LS, Pincus T, Whelton A, Makuch R, Eisen G, Agrawal NM, Stenson WF, Burr AM, Zhao WW, Kent JD, Lefkowith JB, Verburg KM, Geis GS. Gastrointestinal toxicity with celecoxib vs nonsteroidal anti-inflammatory drugs for

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webofjournals.com/index.php/5

osteoarthritis and rheumatoid arthritis: the CLASS study: A randomized controlled trial. Celecoxib Long-term Arthritis Safety Study. JAMA. 2000 Sep 13;284(10):1247-55

21. Pilotto A, Leandro G, Di Mario F, et al. Role of *Helicobacter pylori* infection on upper gastrointestinal bleeding in the elderly: a case control study. *Dig Dis Sci.* 1997;42:586–591.
22. Lanza FL, Chan FK, Quigley EM. Guidelines for prevention of NSAID-related ulcer events. Am J Gastroenterol 2009;104:728-38.
23. FitzGerald GA, Patrono C. The coxibs, selective inhibitors of cyclooxygenase-2. N Engl J Med 2001;345:433–42.
24. Bombardier C, Laine L, Reicin A, Shapiro D, Burgos-Vargas R, Davis B, Day R, Ferraz MB, Hawkey CJ, Hochberg MC, Kvien TK, Schnitzer TJ; VIGOR Study Group. Comparison of upper gastrointestinal toxicity of rofecoxib and naproxen in patients with rheumatoid arthritis. VIGOR Study Group. N Engl J Med. 2000 Nov 23;343(21):1520-8.
25. Lanas A, Baron JA, Sandler RS, Horgan K, Bolognese J, Oxenius B, Quan H, Watson D, Cook TJ, Schoen R, Burke C, Loftus S, Niv Y, Ridell R, Morton D, Bresalier R. Peptic ulcer and bleeding events associated with rofecoxib in a 3-year colorectal adenoma chemoprevention trial. Gastroenterology. 2007 Feb;132(2):490-7.
26. Perini RF, Ma L, Wallace JL. Mucosal repair and COX-2 inhibition. Curr Pharm Des 2003: 9: 2207
27. Schnitzer TJ, Burmester GR, Mysler E, Hochberg MC, Doherty M, Ehrsam E, Gitton X, Krammer G, Mellein B, Matchaba P, Gimona A, Hawkey CJ; TARGET Study Group. Comparison of lumiracoxib with naproxen and ibuprofen in the Therapeutic Arthritis Research and Gastrointestinal Event Trial (TARGET), reduction in ulcer complications: randomised controlled trial. Lancet. 2004 Aug 21- 27;364(9435):665-74.
28. Chan FK, Lanas A, Scheiman J, Berger MF, Nguyen H, Goldstein JL. Celecoxib versusvomeprazole and diclofenac in patients with osteoarthritis and rheumatoid arthritisv(CONDOR): a randomised trial. Lancet. 2010 Jul 17;376(9736):173-9
29. Lanza FL, Chan FK, Quigley EM. Guidelines for prevention of NSAID-related ulcer events.Am J Gastroenterol 2009;104:728-38.
30. Abraham NS, Hlatky MA, Antman EM, Bhatt DL, Bjorkman DJ, Clark CB, Furberg CD, Johnson DA, Kahi CJ, Laine L, Mahaffey KW, Quigley EM, Scheiman J, Sperling LS, Tomaselli GF; ACCF/ACG/AHA. ACCF/ACG/AHA 2010 Expert Consensus Document on the concomitant use of proton pump inhibitors and thienopyridines: a focused update of the ACCF/ACG/AHA 2008 expert consensus document on reducing the gastrointestinal risks of antiplatelet therapy and NSAID use: a report of the American College of Cardiology Foundation Task Force on ExpertConsensus Documents. Circulation. 2010 Dec 14;122(24):2619-33
31. Donnelly MT, Goddard AF, Filipowicz B, Morant SV, Shield MJ, Hawkey CJ. Low-dose misoprostol for the prevention of low-dose aspirin-induced gastroduodenal injury. Aliment Pharmacol Ther. 2000; 14:529 –34.
32. Kitchingman GK, Prichard PJ, Daneshmend TK, Walt RP, Hawkey CJ. Enhanced gastric mucosal bleeding with doses of aspirin used for prophylaxis and its reduction by ranitidine. Br J Clin Pharmacol. 1989;28:581–5.

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33. Tomasz Brzozowski , New Advances in the Basic and Clinical Gastroenterology , First published , April, 2012 , Published by In Tech Janeza Trdine 9, 51000 Rijeka, Croatia , chapter 7 , page 151 .

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