GUIDELINES on use OF NSAIDs and NSAID –GUT interactions.
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Avoid NSAIDs with more potential for hepatic problems,
such as sulindac and diclofenac

Use NSAIDs and aspirin with caution in persons with
asthma, especially those with nasal polyps or recurrent
sinusitis
Avoid NSAIDs in persons with platelet defects or thrombocytopenia

Avoid NSAIDs in persons with renal disease
Avoid NSAIDs in persons with congestive heart failure
Avoid COX-2 inhibitors in persons at risk of cardiovascular events

Current evidence suggests that NSAIDs increase the risk of
lower GI bleeding and perforation to a similar extent to that seen in the upper GI tract.

All nonsteroidal antiinflammatory drugs have the potential to aggravate hypertension, congestive heart failure, and edema.
The American Academy of Pediatrics considers ibuprofen, indomethacin, and naproxen safe in breastfeeding women.
Low-dose aspirin is generally considered safe for use throughout pregnancy, and studies have shown that this
does not increase risk of maternal or neonatal morbidity or mortality

LESIONS INDUCED BY NONSTEROIDAL IN THE DISTALGASTROINTESTINALTRAACNTTI-INFLAMMATORY DRUGS:

- ✓ Increased Permeability and Inflammation
- ✓ Blood Loss and Anemia
- ✓ Malabsorption, Protein Loss, and Ileal Dysfunction
- ✓ Mucosal Ulceration
- ✓ diaphragm disease

Treatment and prevention of NSAID enteropathy:
difficult,

pathogenic mechanisms are different and not well understood.
misoprostol, antibiotics, and sulphasalazine have been proved to be effective in animal models, but they have not been properly tested in humans. Selective COX-2 inhibition is emerging as a potential alternative to t NSAIDs in the prevention of damage in the lower GI tract in rheumatologic patients.

Preliminary studies in healthy volunteers have shown that these drugs are associated with no or less small bowel damage than tNSAIDs plus PPI, although their long-term effects in patients need to be properly tested

GI Effects of ASA:

Enteric-coated or buffered preparations do not reduce the risk of bleeding. For patients at risk of adverse events, gastroprotection should be prescribed. The risk of UGIE increases with ASA dose escalation

GI Effects of Combined ASA and Anticoagulant Therapy:

The combination of ASA and anticoagulant therapy (including unfractionated heparin, lowmolecular-weight heparin, and warfarin) is associated with a clinically meaningful and significantly increased risk of major extracranial bleeding events, a large proportion from the upper GI tract. This combination should be used with established vascular, arrhythmic, or valvular indication; patients should receive concomitant PPIs as well. When warfarin is added to ASA plus clopidogrel, an international normalized ratio (INR) of 2. to 2.5 is recommended

GI Effects of Clopidogrel

Substitution of clopidogrel for ASA is not a recommended strategy to reduce the risk of recurrentulcer bleeding in high-risk patients and is inferior to the combination of ASA plus PPI

Treatment and Prevention of ASA- and NSAID-Related Gastroduodenal Injury:
PPIs are the preferred agents for the therapy and prophylaxis of NSAID- and ASA-associated GI injury

Discontinuation of Antiplatelet Therapy:
Decision for discontinuation of ASA in the setting of acute ulcer bleeding must be made on an individual basis, based upon cardiac risk and GI risk assessments to discern potential thrombotic and hemorrhagic
complications

Guidelines for Prevention of NSAID-Related Ulcer Complications:{adult oriented}

1. Risk factors for NSAID-related GI complications include a previous GI event, especially if complicated, age, concomitant use of anticoagulants, corticosteroids, other NSAIDs including low-dose aspirin, high-dose NSAID therapy, and chronic debilitating disorders, especially cardiovascular disease

2. Low-dose aspirin is associated with a defi nite risk for GI complications

3. *H. pylori* infection increases the risk of NSAID-related GI complications

4. - ere is a potential advantage of testing for *H. pylori* infection and eradicating the infection if positive in patients requiring long-term NSAID therapy. Whether co-therapy with a gastroprotective agent is needed aI er eradication of *H. pylori* depends on individual patients underlying gastrointestinal risk.

5. Misoprostol, when given in full doses (800 mcg / day) is very eF ective in preventing ulcers, and ulcer complications in patients taking NSAIDs. Unfortunately, its usefulness is limited by its GI side eF ects. When given in lower doses its side-eF ect pro5 le is the same as that of PPIs, and it is equally eF ective

6. PPIs signi5 cantly reduce gastric and duodenal ulcers and their complications in patients taking NSAIDs or COX-2 inhibitors.

7. COX-2 inhibitors are associated with a signi5 cantly lower incidence of gastric and duodenal ulcers when compared to traditional NSAIDs. However, this

bene5 cial eF ect is negated when the patient is taking concomitant low-dose aspirin. - e usefulness of these agents has also been reduced by their association with myocardial infarction and other thrombotic CV events.

8. lowest possible dose of celecoxib should, therefore, be used in order to minimize the risk of CV events

9. Although superior to placebo, high-dose H 2 RAs can reduce the risk of NSAID-induced endoscopic peptic ulcers. - ey are signi5 cantly less eF ective than PPIs, however, there is no clinical outcome data to prove that this strategy prevents ulcer complications

10. Patients requiring NSAID therapy who are at high risk (e.g., prior ulcer bleeding or multiple GI risk factors) should receive alternative therapy, or if anti-in ammatory treatment is absolutely necessary, a COX-2 inhibitor, and co-therapy with misoprostol or high-dose PPI.

11. Patients at moderate risk can be treated with a COX-2 inhibitor alone or with a traditional nonselective NSAID plus misoprostol or a PPI

12. Patients at low risk, i.e., no risk factors, can be treated with a non-selective NSAID.

13. Patients for whom anti-in ammatory analgesics are recommended who also require low-dose aspirin therapy for cardiovascular disease can be treated with naproxen plus misoprostol or a PPI

14. Patients at moderate GI risk who also are at high CV risk should be treated with naproxen plus misoprostol or a PPI. Patients at high GI and high CV risk should avoid using NSAIDs or coxibs. Alternative therapy should be prescribed.

15. All patients regardless of risk status who are about to start long-term traditional NSAID therapy should be considered for testing for *H. pylori* and treated, if positive

refrences: Am J Gastroenterol 2009; 104:728 – 738; doi: 10.1038/ajg.2009.115; published online 24 February 2009
2008 Expert Consensus Document on Reducing the Gastrointestinal Risks of

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Position statement on routine laboratory testing before endoscopic procedures:

Routine testing to include coagulation studies, chest x-ray films, ECG, blood cross-matching, hemoglobin level, urinalysis, and chemistry tests are not recommended before endoscopy.

All women of child-bearing age should be queried about the possibility of being pregnant. Pregnancy testing may be considered in women of child-bearing age unless there is a history of total hysterectomy, bilateral tubal ligation, or absent menses for 1 year

Coagulation studies: Active bleeding, known or clinically suspected bleeding disorder, medication risk (eg, anticoagulant use, prolonged antibiotics), prolonged biliary obstruction, history of abnormal bleeding (egm easy bruisability, epistaxis, bleeding after dental procedures), history of liver disease, malabsorption (eg, sprue), malnutrition, or other conditions associated with acquired coagulopathies (eg, leukemia)
Chest x-ray film: Advanced age, significant smoking history, recent upper respiratory tract infection, and severe or decompensated cardiopulmonary disease
ECG: Advanced age and comorbid illness (eg, heart disease, arrhythmia, diabetes, hypertension, and electrolyte disturbances), particularly for symptomatic

patients undergoing more invasive and prolonged procedures

Blood cross-matching: Blood transfusion considered likely

Hemoglobin/hematocrit: Existing anemia, risk factors for bleeding, high risk for adverse events with significant bleeding, advanced liver disease or hematologic disorder, endoscopic procedures associated with a high risk of bleeding complications

Urinalysis: There are no clear indications for obtaining a urinalysis before endoscopy

Chemistry testing: Significant endocrine, renal, or hepatic dysfunction and when taking medications that may further impair function

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