UNIVERSITY of MARYLAND MEDICAL CENTER

Guidelines for Nonsteroidal Anti-inflammatory Drugs (NSAID) use in Trauma Patients

PURPOSE:

The purpose of this guideline is to establish the standard for safe and effective use of NSAID in patients with trauma-related injuries. Additionally, this guideline serves as an educational tool to provide the appropriate indications, management, and monitoring of NSAID for physicians, pharmacists, and nurses.

INCLUSION:

All patients admitted to Shock Trauma Center (STC) with trauma related injuries

EXCLUSION:

Patients will be excluded from using NSAID (in conjunction with opioid(s) or other agents) for pain management if patients meet one or more of the following criteria:

- Acute kidney injury (AKI) [based on RIFLE criteria]
- Chronic kidney disease (document in medical record, baseline creatinine ≥ 1.5, or receiving renal replacement therapy)
- Patients present with non-union fracture
- Uncontrolled diabetes (based on history **or** with hemoglobulin (Hgb) A1C ≥8 g/dL)
- Patients with traumatic brain injury (TBI) until cleared by neurosurgery
- Patients with spinal cord injury
- Patients with history or recent of gastric bypass surgery
- Patients with known or suspected allergy with NSAID

CAUTION:

- Patients with history or recent of coronary artery disease
- Patients with history of chronic obstructive pulmonary disease
- Patients with high risk of perioperative bleeding
- Patients with profound hypovolemia
- Patients with heart failure
- Patients concurrently receiving angiotensin converting enzyme (ACE) inhibitor
- Patients with history of liver disease (e.g. cirrhosis)
- Patients with concomitant use with diuretic(s)

MANAGEMENT:

- All eligible (≥50 kg) patients will receive a dose of ketorolac IV 30 mg before surgery (if possible) or during intra-op prior to incision
- After surgery, patients with normal renal function will receive ketorolac IV 30 mg every 8 hours for 24 hours. For patients with mild or moderate renal dysfunction, weight <50 kg, or >65 years old, will receive ketorolac IV 15 mg IV every 8 hours for 24 hours. For patients received intra-op joint injection (contains 30 mg of ketorolac), reduce the dose of ketorolac to 15 mg IV every 8 hours for 24 hours
- After 24 hours, initiate oral NSAID* (ibuprofen^, celecoxib^, or naproxen^) when the patients are allowed to receive oral medications. Continue oral NSAID up to 14 days
- Monitor renal function throughout the therapy (i.e. change of urine output and/or serum creatinine). Discontinue therapy if patients develop AKI
- If patients complain of upset stomach, may take the medication with food

*drug of choice based on tolerability and side effects. Consult Pain Service or clinical pharmacy for recommendations
^Initial dose: ibuprofen 600 mg every 8 hrs, celecoxib 200 mg daily, naproxen 250 mg po every 12 hrs

Last update: 2/27/2018

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Reviewed and Approved by STC ICU Committee and STC Oversight Committee Nov 2017, P&T Committee Mar 2018

MONITORING:

- Monitor signs and symptoms of bleeding
- Monitor for bleeding if patients concurrently receive systemic anticoagulation

*drug of choice based on tolerability and side effects. Consult Pain Service or clinical pharmacy for recommendations
^Initial dose: ibuprofen 600 mg every 8 hrs, celecoxib 200 mg daily, naproxen 250 mg po every 12 hrs

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