2021

Indomethacin Suppository Medication Use Evaluation for Prevention of Post-Endoscopic Retrograde Cholangiopancreatography Pancreatitis (PEP) in a Community Health System

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OBJECTIVE

To evaluate the use and characterize the patient population receiving indomethacin suppositories for PEP with the goal of ensuring appropriate use.

BACKGROUND[1,2]

- Indomethacin is a nonsteroidal anti-inflammatory drug (NSAID) that is approved for moderate to severe rheumatoid arthritis, osteoarthritis, or ankylosing spondylitis.
- Despite being an off-label indication, the American Society of Gastrointestinal Endoscopy (ASGE) and European Society of Gastrointestinal Endoscopy (ESGE) guidelines support the use of indomethacin suppositories for the prevention of post-endoscopic retrograde cholangio-pancreatography (ERCP) pancreatitis.
  - Dose: 100mg suppository
- ERCP is an invasive procedure that is performed when either the bile or pancreatic ducts are narrowed or blocked.
- One of the most common risks seen with ERCP is acute pancreatitis. In order to prevent pancreatitis in post-ERCP (PEP), indomethacin suppositories are given immediately before or after completion of the procedure.

METHODS[3-5]

- A retrospective medication use evaluation and chart review
- Inclusion criteria:
  - Received an indomethacin suppository during their procedure from January 1, 2019, through December 31, 2020, and an indication of PEP
- Exclusion criteria:
  - NSAID allergy, chronic NSAIDs prior to procedure, or pregnant
- Information regarding the procedure was manually collected to categorize patients into high and low risk groups
- Items that have been referenced to increase risk were given a weighted positive score (i.e., +1).

0.5 point	1 point	
Age <40 years old	Normal Serum bilirubin	Sphincter of Oddi dysfunction
Female	Pancreatic sphincterotomy or Precut sphincterotomy	End Stage Renal Disease
Nondilated bile duct 8-11mm	3+ injections of contrast	ERCP failure
Recurrent pancreatitis vs prior pancreatitis	Balloon dilation of sphincter	Prolonged cannulation
2 injections of contrast	Nondilated bile duct <8mm	Failure to clear stone

- Items referenced to lower the risk of PEP were given a weighted negative score (i.e., -1).

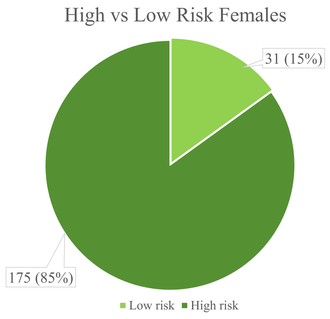
-1 point			
Chronic pancreatitis	Age ≥40 years old	Pancreatic stent placement	Guidewire assisted cannulation

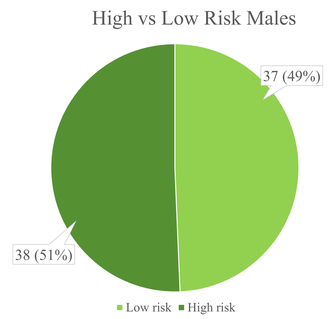
- Patients were classified as high risk if their net score was >1 and low risk for those with a net score ≤1.

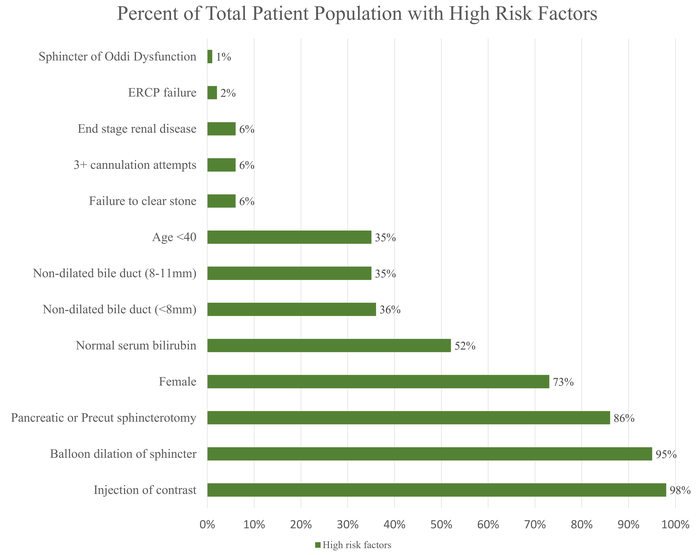
RESULTS

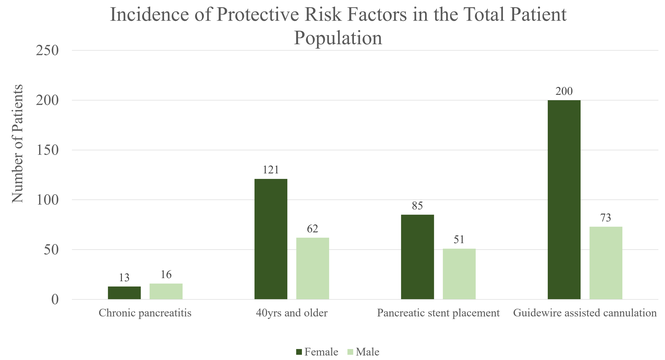
A total of 281 patients with an indication of PEP received indomethacin suppositories during the study period. There were 206 (73.3%) females, and the average patient age was ~50 ±19 years.

Demographic	Female	Male
Encounters (n)	206	75
Age:		
Mean age ± SD (years)	48.4 ± 19.9	56.4 ± 16.9
Age <40 years (n, %)	85 (41.26%)	13 (17.33%)
Age ≥40 years (n, %)	121 (58.74%)	62 (82.67%)
High risk patients with >1 net score (n, %)	175 (84.95%)	38 (50.67%)
Past medical history:		
End-stage renal disease (ESRD) (n, %)	9 (4.37%)	17 (22.67%)
Hypertriglyceridemia (n, %)	0	4 (5.33%)
Hyperlipidemia (n, %)	45 (21.84%)	23 (30.67%)
Chronic pancreatitis (n, %)	13 (6.31%)	16 (21.33%)
Acute pancreatitis (n, %)	30 (14.56%)	20 (26.67%)









- Of 281 patients assessed, 279 received the recommended total dose of indomethacin 100mg.
- Of those 279 patients, 213 (76.34%) patients were considered high risk.
- Of the 213 high risk patients, 175 (82.16%) were female and 38 were male.

DISCUSSION & CONCLUSIONS

- Most patients who received treatment with indomethacin suppositories were high risk for PEP based on criteria derived from the guidelines and previous literature
- Although this study highlights the patient populations that indomethacin suppositories are used in, there are limitations.
  - Manual chart review and retrospective nature of review.
  - Limited documentation in procedural notes and potential bias in interpretation.
- Results support proper use in high-risk patients, but also offers opportunity for improvement in low-risk patients
- Educate providers on the most common low risk factors to minimize unnecessary use of indomethacin suppositories during procedures
  - This includes:
    - Older patients without significant comorbidities
    - Pancreatic stent placement during the procedure

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Disclosure
The authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation:
Caitlyn Patton: Nothing to disclose | Jamie Gaul: Nothing to disclose | Jennifer Sposito: Nothing to disclose