Clinical Safety & Effectiveness
Cohort # 23

Improving Inflammatory Bowel Disease Care

UT Health San Antonio
Center for Patient Safety & Health Policy

Educating for Quality Improvement & Patient Safety
Background

- Inflammatory Bowel Disease (IBD) patients admitted with a flare are 5-6x more likely to have a complication with a venous thromboembolism (VTE)
- As a result, more emphasis is being placed recently on administering chemical prophylaxis to these patients
- At UH, a retrospective chart review over 6 months of hospitalized patients with an IBD flare revealed that only 40% received chemical VTE prophylaxis
What We Are Trying to Accomplish?

OUR AIM STATEMENT

To increase the frequency of chemical VTE prophylaxis in Inflammatory Bowel Disease patients admitted for a flare from 40% to 75% by December 31, 2018.
The Team

• Division
  – CS&E Participants:
    » Chirag Patel, MD → Gastroenterology Fellow
    » Elizabeth Coss, MD → Gastroenterology Faculty
  – Team Members
    » Pranav Penninti, MD → Internal Medicine Resident
  – Facilitator
    » Ventrice Shillingford-Cole
    » Dr. Jan Patterson

• Sponsor Department: Gastroenterology
  » Dr. Glenn Gross, MD → Chief of Department of Gastroenterology
Project Milestones

- Team Created 8/2018
- AIM statement created 9/2018
- Weekly Team Meetings 9/13/2018-11/1/2018
- Background Data, Brainstorm Sessions, Workflow and Fishbone Analyses 9/2018
- Interventions Implemented 10/1/2018, 11/1/2018
- Data Analysis 1/2019
- CS&E Presentation January 17, 2019
Selected Process Analysis Tools

• Brainstorming
• Flowchart
• Fishbone
Process Analysis Tool: Fishbone

Patient Factors
- May be too sick, i.e., requiring transfusions, severely anemic and/or hypotensive
- Refusing
- Ambulating (Low Risk)
- No GI Consult to discuss
- Not addressed
- Lack of Awareness
- EMR orderset criteria shows no indication or contraindication
- Patient deemed low risk

Ancillary Factors
- Pain/Fear of Needles
- Allergic
- Actively Bleeding
- Obesity
- Pharmacist reviews and declines
- Nurse uncomfortable, especially with bleeding patient
- Nurse gets incorrect order
- Nurse forgets
- Nurse forgets

Physician Factors
- Fearful of making bleeding worse
- Ambulating patient
- Orderset shows contraindication

Hospital Factors
- Extended ER Hold
- Med Shortages
- Order Dropped
- Encouraging SCD's

Inadequate DVT Prophylaxis for Flaring IBD Patients
Selected Decision Making Tools

• Pareto Diagrams
Pareto Chart

IBD Flares Without Prophylaxis

- Bleeding: 16
- Ambulating: 12
- Not Listed: 4

Percentage Distribution:
- Bleeding: 100%
- Ambulating: 80%
- Not Listed: 20%
Pareto Chart

Charted Reasons for Holding DVT Prophylaxis in Non-Severe GI Bleeding
Background/Problems

• Unfortunately, many of these patients have a GI bleeding component to their flares therefore chemical prophylaxis (a blood thinner) is not given out of fear of worsening the bleeding

• Data shows bleeding risk is not heightened when chemical prophylaxis is given to patients with IBD flare when bleeding is not severe, i.e. Hemoglobin <7, requiring blood transfusions, and/or tachycardia with hypotension

• Goal should be to reduce variation in the decision-making process regarding VTE prophylaxis in hospitalized flaring IBD patients
VTE Prophylaxis in Flaring IBD Inpatients With Non-Severe Bleeding

- March 2018: 135.80
- April 2018: 39.29
- May 2018: -57.23
Initial Intervention Idea

- In the admission orderset, VTE prophylaxis is a mandatory
- Insert "IBD Flare" as a flag to deem the patient higher risk for VTE.
  - Just as done with patient with cancer, respiratory failure, etc.
What Changes Can We Make That Will Result in an Improvement?

- Resident and GI Fellow Education in person and via e-mail
- Reminder sheets in resident and fellow rooms
- Creation of “.IBD” acronym expansion tool
  - This will serve an educational purpose along with assist with decision making for whom to give prophylaxis
- Specific instructions for acronym expansion implementation in each room

Intervention
How Will We Know
That a Change is an Improvement?

• Types of measures: Track the frequency of chemical VTE Prophylaxis in Non-severe GI bleeding via SPC chart
  – Eventually track DVT/PE rates as well
• How you will measure: Chart Review, SPC Chart
Implementation

• Educate:
  – In person and via e-mail for GI fellows 10/1/2018
  – In person at resident team rooms (11/1/2018)
  – Via e-mail (11/5/2018)
Admitting a patient with IBD flare?

- Have you implemented the "IBD" acronym expansion into your personal Sunrise yet? If not then please see the previously e-mailed instructions if you need assistance with this.

- Please use the "IBD" acronym expansion for chemical DVT prophylaxis guidance after it has been implemented it into your personal Sunrise.

- Please answer the last question in the acronym expansion with a yes or no to determine if it was helpful and leave it in your patient note for tracking purposes.

- Please Consult the GI service as soon as possible and document that you have done this.

Thank you for your cooperation and participation in advance and thank you for helping us all take better care of our patients!

Contact GI Fellow, Chirag Patel, at patelcm@uthscsa.edu or 956.572.6103 with any questions or concerns.
Acronym Expansion Instructions

IBD QUALITY IMPROVEMENT PROJECT FOR DVT PROPHYLAXIS IN FLARING PATIENTS

ENTERING ACRONYM EXPANSION IN SUNRISE:

1) Preferences
If this patient is admitted with an IBD flare and does not have severe bleeding (Hemoglobin $\leq 7$ and/or hypotension (Systolic BP $< 90$) with heart rate $> 100$), please start chemical DVT prophylaxis unless otherwise contraindicated.

Was this tool helpful in helping your decision-making process regarding DVT prophylaxis in this patient?
Hello Everyone!

We have started a Quality improvement project for improving our rates of chemical prophylaxis in IBD patients hospitalized for a flare. We have created a det phrase for Sunrise, IBD, which you all can use to implement in your personal Sunrise via acronym expansion. You will find the expanded text for “IBD” below along with background information regarding this project. Attached you will find step-by-step instructions for how to add an acronym expansion to your Sunrise. Further, a printed handout with these instructions and reminder signs have been passed out to all the Medicine resident team rooms. Please consult the GI team for every patient with an IBD flare and if there are ever any questions or concerns, please do not hesitate to reach out to us!

Background for Our QI Project

- Inflammatory Bowel Disease (IBD) patients admitted to the hospital with a flare are 5-6x more likely to have a complication with a deep venous thrombosis (DVT)
- As a result, more emphasis is being placed recently on administering chemical prophylaxis to these patients.
- Though not yet published in USA Guidelines, chemical prophylaxis is recommended in Canadian and European Guidelines. Most IBD expert opinion in the US give recommendation to provide chemical prophylaxis.
- At UH, a retrospective chart review of 100 patients hospitalized with an IBD flare revealed that only roughly 50% received chemical DVT prophylaxis in patients without severe bleeding.

AIM

To increase the frequency of chemical DVT prophylaxis in Inflammatory Bowel Disease patients admitted for a flare from 50% to 75% over the next year.

How

- Education for GI Fellows & Faculty, Medicine Residents & Faculty along with Family Medicine Residents and Faculty via this e-mail, handouts, signs in team room.
- Consult GI for every patient admitted with an IBD flare and document that this consultation was obtained
- IBD acronym expansion as a tool to assist with the decision making process. Please leave at least the last question portion with your answer in the text of your assessment and plan portion of your notes where this will likely be best used.

Acronym:

IBD

Expanded Text:

If this patient is admitted with an IBD flare and does not have severe bleeding (Hemoglobin<7 and/or hypotension(Systolic BP<90) with heart rate>100), please start chemical DVT prophylaxis unless otherwise contraindicated.

Was this tool helpful in helping your decision-making process regarding DVT prophylaxis in this patient?

End Measures

- Monitor frequency of DVT prophylaxis in patients admitted with an IBD flare in the absence of severe GI bleeding (Hemoglobin<7 and/or hypotension(Systolic BP<90) with heart rate>100)
- Monitor the rate of the use of the “IBD” acronym expansion tool as above

Thank you for your cooperation and participation in advance and thank you for helping us all take better care of our patients!

Ching Patel PGY-6
Gastroenterology Fellow
UT Health San Antonio
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Plan

-Determined a problematic area
-Came up with interventions
-Implemented Oct & Nov 2018
-Review Post-Intervention Data 1/1/2019
Implementing the Change

Do

• GI fellows educated 10/1/2018
• IM & FM residents educated via e-mail and in team rooms 11/1/2018. Encouraged to use the .IBD template
  – Difficulties covering everyone given inability to coordinate a presentation to the whole department and several military rotators & rotating med students over this time.
  – Feedback for 1st e-mail: "too long!"
• Reminder signs posted in team rooms
Results/Impact

Check

• The AIM statement was achieved at the post-intervention data for 2 months showed 100% VTE prophylaxis rates
  – Difficult to tell if in-person and e-mail education along with team room signs were sufficient enough
  – No IM notes left the .IBD phrase in their notes and only 40% of the GI notes left it in their notes
GI Fellows

165.356
IM/FM Residents, Room Signs, IBD

54.6433

-56.069
Act

• It appears the interventions have improved the rates thus far
• Most helpful seemed to be the REMINDER SIGNS and EDUCATION per resident and fellow feedback
• ".IBD" (acronym expansion) can likely be abandoned
  – "Unnecessary extra step"
  – Did not want to keep in a "legal document"
• Eventual and likely the most sustainable plan: Working with IT for EMR implementation into admission ordersets
Sustaining/Expansion of Our Implementation

– Reminders on a monthly basis with new rotators, teams, etc may help keep it sustainable for now
– Rollout to other teams, ie. Colorectal Surgery
– Admission orderset
Return on Investment

- DVT ~ $10,000; PE ~$20,000
- Re-admission for hospital related VTE usually means loss of reimbursement
  - CMS Core Measure
- Cost of Lovenox for 5 day LOS for an 80 kg man=$420
- 7.6 to 41% risk of VTE with hospitalization with flare
- 4 flares without severe bleeding/month on average at UHS
- Using 25% risk with 48 patients per year= 12 VTE prevented/year
- Cost of 12 VTE x ~15K cost for VTE
- ROI=~900% with savings of ~160K/year + Re-admission related costs
Thank you!