



American Society for
Gastrointestinal Endoscopy



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NCSG Debate 2023

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Debate Topic:

63 yo male was admitted to Cardiology yesterday w NSTEMI. Troponins are improving. Cardiology wants to cath the patient and requests "GI clearance" for anemia before proceeding. Hb is 10.5 compared to baseline 11.5 last year.

Patient has no GI complaints and no change in his normal bowel movements which are every two days. In the ED he had brown heme positive stool. He takes ASA 81 mg and other meds for diabetes, hypertension and lipids. His MCV is normal.

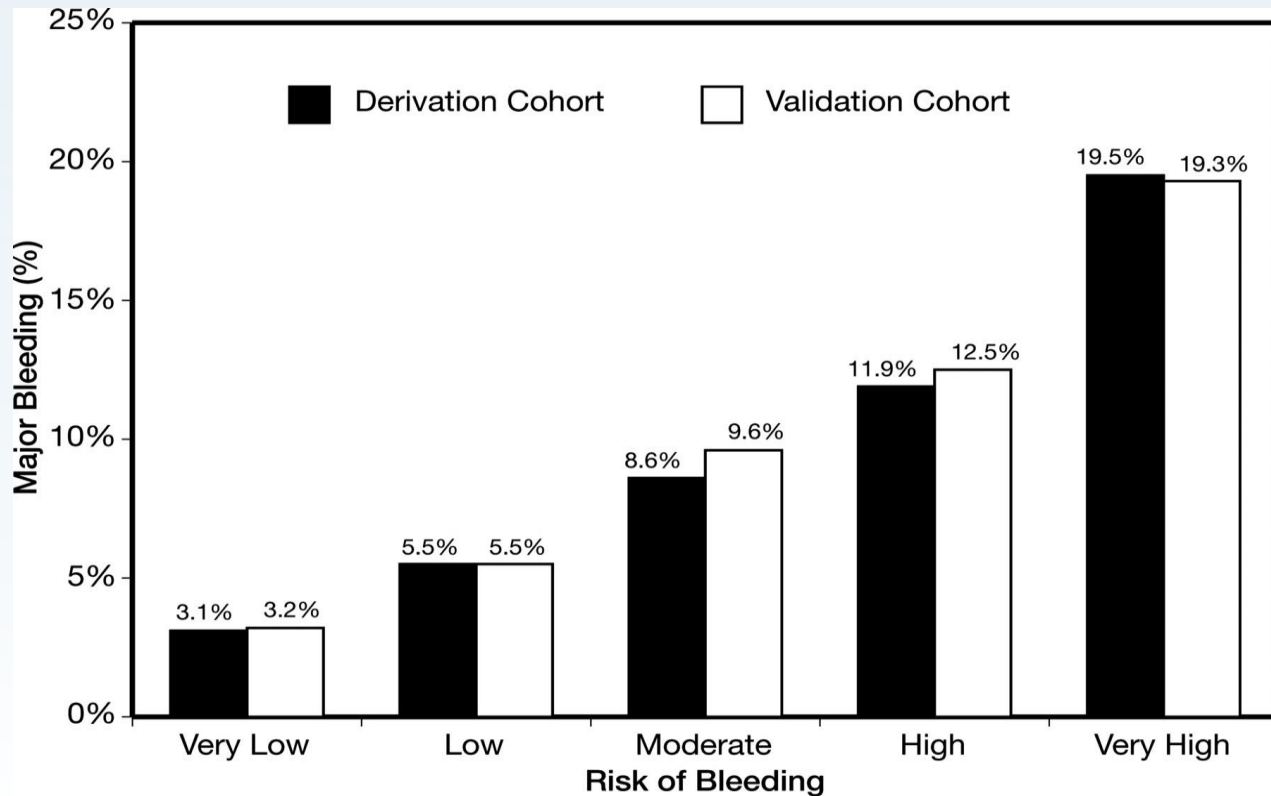


Opening Remarks

- Pre-catheterization endoscopic evaluation will change further management
- Risk Stratification of Patient
 - Low risk of mortality associated with NSTEMI
 - High Risk of major bleeding and mortality associated with new onset anemia
- Early Endoscopy is a safe and reduces mortality
- Major bleeding and Anemia are independent risk factors for mortality in ACS



Risk stratifying our patient



Subherwal et al, Circulation, 2009

Post-MI Bleeding Risk

Can Rapid risk stratification of Unstable Angina Patients Suppress Adverse outcomes with Early implementation of ACC/AHA guidelines (CRUSADE)

- Validated risk stratification tool that has prognostic value for major bleeding in all patients presenting with NSTEMI
- **CRUSADE Score 32, moderate risk, 7.2% risk of In-hospital Major Bleeding**

Safety of Endoscopic Procedures in ACS

Endoscopy in ACS	Measured Outcomes	Results
Hoffman, et al, Am J Gastroenterol 2020	Mortality rates in ACS who require EGD or CLN at index hospitalization	<ul style="list-style-type: none">• Lower mortality overall vs angiogram alone.
Chung, et al Sci Rep, 2022	Early vs late endoscopy in ACS: controlled hemorrhage failure rates and mortality	<ul style="list-style-type: none">• Reduced hemorrhage failure rates• Lower thrombosis risk at 6 months, equal mortality risk
Yachimski, et al Dig Dis Sci, 2009	Mortality and major bleeding in UGIB with ACS and utility of early EGD	<ul style="list-style-type: none">• EGD prior to cath reduced mortality and bleeding



Major bleeding and Anemia in patients undergoing early invasive coronary angiography.

- No consensus on definition of major bleeding.
- Coronary Angiography with PCI is associated with major bleeding events post-procedure and significantly impacts major adverse cardiovascular events (MACE) and mortality.
- In NSTEMI patients undergoing PCI, risk of major bleeding is reportedly 3-10% with GIB equating 28-30% of bleeds
- Approximately 15% of all acute MI patients present with anemia (Wu et al, NEJM 2001).
- Anemia in patient with ACS is an independent risk of major bleeding, recurrent ischemia, MACE, and mortality.



Anemia, Major Bleeding, and Mortality in NSTEMI

Baseline Anemia and NSTEMI	Measured Outcomes	Results
Manoukian et al, JACC, 2007	Impact of Anemia on 30-day mortality ACS – ACUITY Trial analysis	<ul style="list-style-type: none"> Anemia Hb<13 in men was an independent risk factor for major bleeding and mortality.
Bassand et al, OASIS Trial Eur Heart J., 2010	Baseline Hb and Major bleeding complications in ACS in 30-days	<ul style="list-style-type: none"> Low baseline hgb independent predictor of risk of major bleeding in ACS and increased mortality.
Sabatine et al, Circulation 2005	Association of Hb levels with MACE	<ul style="list-style-type: none"> Independent predictor of MACE across spectrum of ACS.
Nikolsky, et al, JACC , 2005	Anemia with ACS undergoing PCI	<p>Baseline anemia in AMI is an independent risk factor for:</p> <ul style="list-style-type: none"> Prolonged hospital stay Major bleeding In-hospital and 1 year mortality

Impact of Anemia on 30-day mortality in ACS – ACUITY Trial analysis

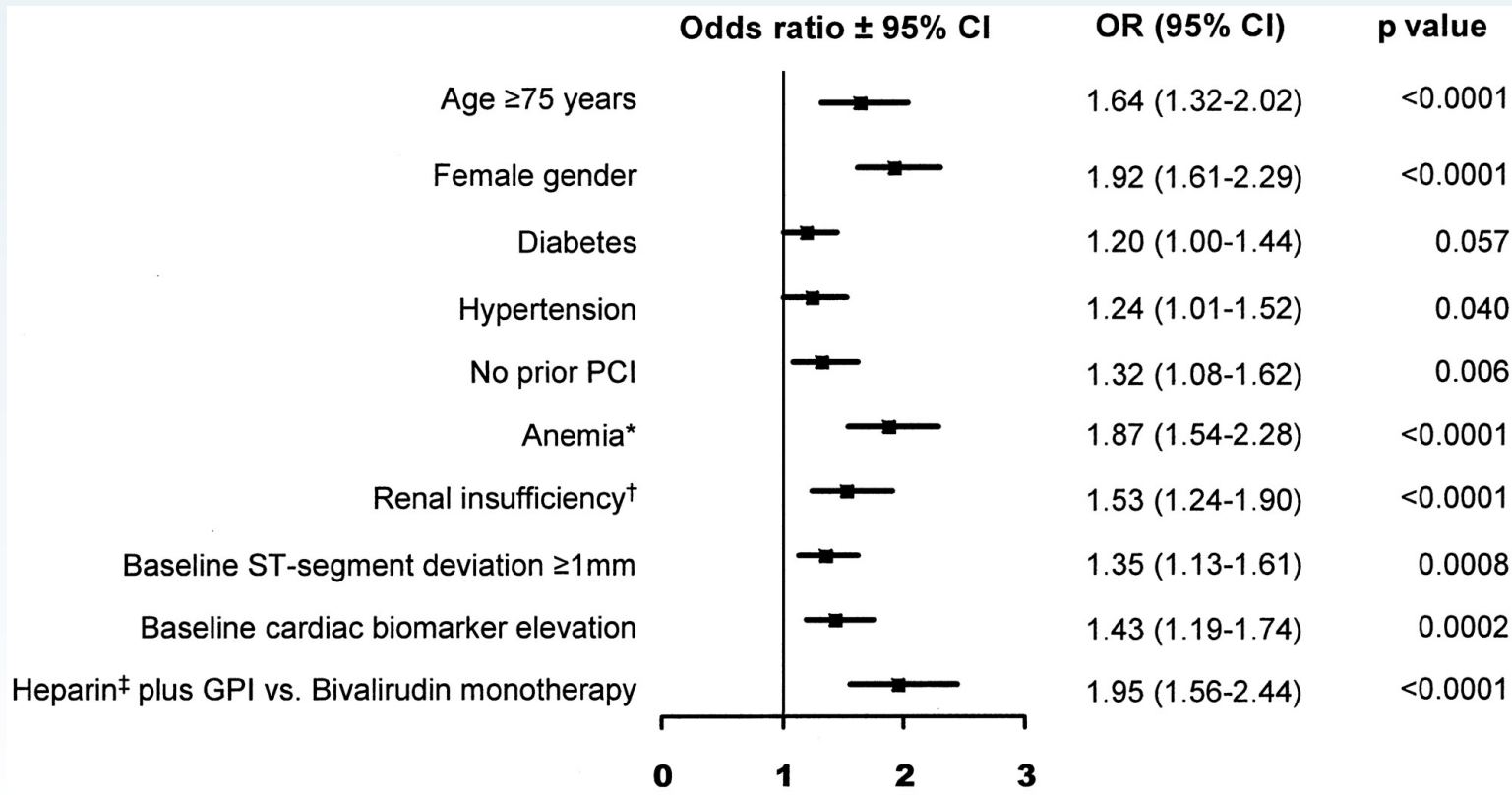


Figure 1. Independent Predictors of Major Bleeding

Manoukian et al, JACC, 2007



Closing Remarks

1. Pre-catheterization endoscopic evaluation will change further management regarding DAPT, stent placement, and long term medical management.
2. Low Risk of Mortality associated with NSTEMI [GRACE Score 4% ACS related mortality at 6 months].
3. High Risk of Mortality and Major Bleeding complications associated with Anemia [CRUSADE Score moderate/high risk major bleeding 7.2-8.3%].
4. Early endoscopic evaluation is a safe and effective practice in reducing mortality associated with GI bleeding and ACS.



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