MUSC Health
Medical University of South Carolina

Combating Coagulopathy with Thromboelastography

Intervention Radiology – Integrated Residency Program
PD: Ricardo Yamada, Lead Resident: Clark Phelps

ABSTRACT

Many interventional radiology procedures carry a high risk of bleeding, often necessitating blood transfusions. This risk is further elevated in patients with cirrhosis. Thromboelastography is a new technology available at MUSC to better characterized coagulopathy and guide treatment by directing which products to administer.

Prior to undergoing invasive procedures in vascular interventional radiology all patients undergo a standard workup including evaluation for coagulopathy. Traditional INR and platelets have been the standard workup to assess bleeding risk. Recently, thromboelastography (TEG) has evolved as a new method of assessing bleeding risk offering improved characterization of coagulopathy, particularly in cirrhotic patients where INR and platelets is often an inaccurate assessment of bleeding risk. The goal of this quality improvement project is to implement TEG into the standard workup for interventional radiology patients.

AIM STATEMENT

Implement thromboelastography as the mainstay in preprocedural evaluation of bleeding risk and coagulopathy for patients undergoing high risk procedures with interventional radiology by 2023 with the goal of 70% by the end of 2022..

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Methods/Intervention

Education to Interventional radiology residents about the utility of thromboelastography, which patients may benefit, and how to interpret results.

RESULTS

Retrospective chart review of all inpatients that underwent high bleeding risk procedures with vascular interventional radiology in October-December 2022.

Procedure Type	Percentage with TEG
All Procedures	50%
Non-Targeted Liver biopsy	54%
Transjugular liver biopsy	58%
TIPS	42%
Angiography for bleeding	54%

Break down by most common procedures reviewed

Month	October	November	December
Percentage with TEG	55%	56%	38%

Breakdown of total procedure by month

CONCLUSIONS

Unfortunately, we were unable to meet our primary metric. However, considering that this implementation was entirely new, our progress was significant and we were very close, excedding 50% overall. A goal of 70% for initial implantation was likely unrealistic, however we will continue to strive to improve.

Barriers

-Different residents rotating through the interventional service.

-Large service with many providers

-Implementing new technology takes time

-Referring services often do no order TEG

-Our worst month, by far was December likely resulting from more rapid rotation of residents than normal

Next Steps

-Continued resident education, particular in regard to new residents rotating on service.

-Potentially altering order sets in the future when IT assistance becomes available.