March 2023

Description of Urban Emergency Department Patients with Elevated D-Dimer Levels

Paige E. Hammis  
Wayne State University, he2220@wayne.edu

Anneliese Rademacher  
Wayne State University School of Medicine

James Paxton MD  
Wayne State University School of Medicine

Sarah Meram

Elizabeth Dubey MD

See next page for additional authors

Follow this and additional works at: https://digitalcommons.wayne.edu/som_srs

Part of the Medicine and Health Sciences Commons

Recommended Citation  
Hammis, Paige E.; Rademacher, Anneliese; Paxton, James MD; Meram, Sarah; Dubey, Elizabeth MD; and Reed, Brian, "Description of Urban Emergency Department Patients with Elevated D-Dimer Levels" (2023). Medical Student Research Symposium. 207.  
https://digitalcommons.wayne.edu/som_srs/207

This Research Abstract is brought to you for free and open access by the School of Medicine at DigitalCommons@WayneState. It has been accepted for inclusion in Medical Student Research Symposium by an authorized administrator of DigitalCommons@WayneState.
“Description of Urban Emergency Department Patients with Elevated D-Dimer Levels”

Authors
Anneliese Rademacher, Paige Hammis, Sarah Meram, Elizabeth Dubey MD, Brian Reed, James Paxton MD

Introduction
Venous thromboembolism (VTE) can cause conditions including deep venous thrombosis (DVT) and pulmonary embolism (PE). D-dimer is an assay used to detect VTE, with a level of 0.5 or higher being a positive result. However, many other factors can influence D-dimer levels. The purpose of our study is to describe the characteristics associated with an elevated D-dimer level among patients treated in two urban emergency departments (EDs).

Methods
This is a retrospective study utilizing review of the electronic medical records including D-dimer levels and other data for patients who presented to two Detroit EDs over the course of 2 years. Standard statistical analyses were performed. Exclusion criteria included patients with incomplete registration data or who left without completion of service.

Results
Of the patients who had a positive D-dimer test, 64.58% were female and 88.82% were African American. Patients with a history of chronic obstructive pulmonary disease (COPD), congestive heart failure (CHF), coronary artery disease (CAD), or cancer were more likely to have a positive D-dimer level (p < 0.001). Only 5.71% of patients with a positive D-dimer had a diagnosis of VTE (p < 0.001).

Discussion/Conclusion
Although a D-dimer assay can be useful in screening for VTE, our results showed that a positive D-dimer test is not specific for diagnosis of PE or DVT. Other characteristics are associated with an elevated result including a history of CHF, COPD, CAD/MI, and cancer. To avoid unnecessary testing, factors that influence D-dimer levels need to be further researched.