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

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# **“Description of Urban Emergency Department Patients with Elevated D-Dimer Levels”**

## **Authors**

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## **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.