THE DIAGNOSTIC UTILITY OF D-DIMER, AND OTHER CLINICAL VARIABLES IN PREGNANT AND POSTPARTUM PATIENTS WITH SUSPECTED ACUTE PULMONARY EMBOLISM

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Objectives & Background Pulmonary Embolism (PE) in pregnancy remains one of the leading causes of maternal morbidity and mortality in the developed world. However, there is a paucity of high quality evidence resulting in a lack of consensus in managing this group of patients. The aim of the study was to address the diagnostic utility of D dimer for suspected PE in pregnant and postpartum patients, and to identify any clinical
presentation variables that are predictors of PE in this group of patients.

Methods A retrospective case note review of 152 pregnant and postpartum patients who underwent diagnostic imaging (Ventilation/Perfusion (V/Q) or computed tomographic pulmonary angiography (CTPA)) for suspected PE at a tertiary teaching hospital from 2007 to 2011 was conducted. The reference range for D-dimer was less than 0.5 mg/L as being normal. The following variables were also assessed in terms of their predictive capability for PE diagnosis in pregnancy; Heart Rate (HR), Mean Arterial Pressure (MAP), Shock Index (SI), and A-a gradient.

Results The application of D-dimer testing for suspected PE in this study population had a sensitivity of 100% (95% CI, 73%–100%), specificity of 42% (95% CI, 31%–53%), and a likelihood negative ratio of 0. None of the clinical variables were significant predictors of PE according to regression analyses: d-dimer odds ratio (OR) 1.52 95% CI [0.95, 2.42], HR OR 1.02 95% CI [0.56, 1.85], MAP OR 1.54 95% CI [0.89, 2.66], SI OR 0.70 95% CI [0.33, 1.51] and A-a gradient OR 2.08 95% CI [0.93, 4.62].

Conclusion According to our study, there is supportive evidence that a negative D-dimer result is useful as a means of ruling out PE in pregnant and post-partum patients. However, we need a larger prospective observational study to collaborate the findings.