In Reply In our Review of asthma in pregnancy, we stated that pulmonary embolism is a consideration when evaluating dyspnea during pregnancy. We noted that D-dimer levels have been shown to be elevated in pregnancy, but levels have not been validated to exclude the diagnosis in the pregnant population. Dr See states that D-dimer levels can be used in conjunction with clinical assessment to exclude pulmonary embolism. While we agree that clinical assessment along with laboratory data are necessary to evaluate for pulmonary embolism, our intention was to caution against relying on D-dimer levels in isolation.

D-dimer levels have been shown to fluctuate during pregnancy from trimester to trimester. In a longitudinal study of 714 women with normal pregnancies in Denmark, D-dimer levels were collected and normalized into percentiles. Ten percent of individuals had D-dimer values that fluctuated by more than 50 percentage points during the course of the pregnancy, making D-dimer values difficult to interpret. A study from Spain showed that D-dimer levels increased during pregnancy among most women, with 93% of women in the second trimester and 99% in the third trimester having a D-dimer level greater than the cutoff value of 500 ng/mL. The investigators suggested trimester-specific reference intervals (first trimester, 169-1202 ng/mL; second trimester, 393-3258 ng/mL; third trimester, 551-3333 ng/mL). The physiologic increase in D-dimer levels during pregnancy makes it difficult to use D-dimer values to rule out pulmonary embolism. Observing an isolated increase in D-dimer level in patients without clinical suspicion of pulmonary embolism may place them at risk of unnecessary testing.

D-dimer levels must be used cautiously in pregnant patients and in conjunction with other clinical measures. The pregnancy-adapted YEARS algorithm uses D-dimer levels in conjunction with 3 criteria from the YEARS algorithm (clinical signs of deep vein thrombosis, hemoptysis, and pulmonary embolism as the most likely diagnosis) to rule out pulmonary embolism. However, even when combined with clinical measures, D-dimer levels have limitations. An external validation study of the pregnancy-adapted YEARS algorithm identified 17 of 272 patients (6.25%) with pulmonary embolism even though they did not meet clinical criteria and had a D-dimer level of less than 1000 ng/mL.

Our goal as clinicians is to ensure the health and safety of our pregnant patients, including diagnosing pulmonary embolism while minimizing radiation exposure.

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