Despite new decision rules, angiography still frequently used to diagnose low-risk pulmonary embolism in emergencies

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An analysis of persons admitted to the emergency department (ED) for suspected pulmonary embolism (PE) and evaluated using computed

tomographic pulmonary angiography (CTPA) has found that despite recent rules to limit its use, clinicians have instead increased the use of CPTA as well as increasing diagnoses of PEs and especially low-risk PEs. The analysis is published in *Annals of Internal Medicine*.

The recommended diagnostic strategy for patients with suspected PE in the ED follows 3 steps: evaluation of clinical probability, followed if needed by D-dimer measurement, followed if positive by chest imaging including CTPA. The use of CTPA and subsequent diagnosis of PE have increased substantially since the 1990s, raising concerns about the risk of CTPA overuse and overdiagnosis of PE.

Overdiagnosis is associated with complications including kidney injury, anaphylactic reaction, long-term complication from radiation exposure, and unnecessary anticoagulant treatment. Since 2010, several decision rules have been developed to reduce the need for chest imaging either by alleviating the need for D-dimer testing to rule out PE or by raising the D-dimer threshold for chest imaging.

Researchers from Sorbonne Universite, Assistance Publique–Hôpitaux de Paris, and Royal London Hospital conducted an analysis of persons with CTPA performed for suspected PE in the ED in intervals between January 2015 and December 2019. The authors included 8,970 CTPAs in their analysis.

They observed that EDs were using CTPAs more often and more frequently diagnosing PE, including low-risk PE. The authors also observed an increase in ambulatory management and a lower proportion of intensive care unit admissions. The authors highlight that their findings do not suggest increasing overuse of CTPA, but instead suggest a trend towards more diagnosing of mild PEs.

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