Category : **Emergency room**

A173 - *Reduction of emergency ct diagnostic in suspected pulmonary embolism – an age- and risk-adapted protocol*

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Introduction:

Patients with symptoms of pulmonary embolism (PE) are common in the emergency department (ED). Positive D-Dimers (DD) often trigger emergency computer tomography (CT). With this study we aimed to address the dilemma between overuse of CT scans and fear of missed PE. To rule out PE, grant a high grade of security for the patients, reduce radiation, costs, and occupied beds, we evaluated a combination of age- and risk-adapted protocol.

Methods:

We performed a monocentric, retrospective study on patients tested for DD in order to diagnose PE between 01/2018 and 08/2018. We analyzed patients with DD between 0.5-1.0 mg/l, using age-adjustment (recommended by the guidelines) and risk-adaption with the Well's Score. In patients with DD $\leq$ 1 mg/l and the Well's Score of $\leq$ 4 diagnosis of PE deemed to be unlikely. The CT scans of these low-risk patients were re-read in detail.

Results:

Data on DD were raised in 1,270 patients in the examined period. We excluded 1,022 patients as DD tests were carried out for other reasons than PE, or DD values were below 0.5 mg/l or over 1.0 mg/l. 148 patients were included. PE was unlikely in 60 patients using age-adjustment for DD. PE was likely in 88 patients, in 19 patients a CT scan was not performed and had to be excluded.

Only 7 out of 69 patients had a Well´s score over 4 in the risk-adaption analysis. Of these 7 patients, 1 patient had a paracentral PE. Out of 62 low-risk patients, 2 patients had a subsegmental PE, 1 patient a known thrombus.

This results in a reduction of 89.8% in scans in the analyzed cohort, missing 2 new minor PEs (3.2%). In the group who would have had a scan 1 out of 7 patients (14.3%) was diagnosed with a paracentral PE.

Conclusion:

The combination of age- and risk-adapted assessment in patients with suspected PE resulted in a convincing reduction of CT scans with a tolerable risk for missing PE.