



**6th International Conference on Nanotechnologies and Biomedical Engineering
Proceedings of ICNBME-2023, September 20–23, 2023, Chisinau, Moldova
Volume 2: Biomedical Engineering and New Technologies for Diagnosis, Treatment, and
Rehabilitation**

Diagnosing Pulmonary Embolism with Computed Tomography Pulmonary Angiography

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https://doi.org/10.1007/978-3-031-42782-4_36

Abstract

Pulmonary embolism (PE) is the third most common cause of cardiovascular mortality after myocardial infarction and stroke. Incidence rates range from 53 to 162 per 100 000 inhabitants. The CTPA is reported as the standard of care for the evaluation of patients with suspected pulmonary embolism. The aim of study was to assess the diagnostic performance of CTPA for finding of PE on contrast-enhanced chest CT investigations. We included in the study 70 patients (mean age 63.2 ± 14.5 years; 35 women, 35 men) with a high clinical probability of PE, who were hospitalized in “Sfinta Treime” Hospital and subjected to the investigation of CTPA with contrast Ultravist 370. The diagnosis of PE was based on National clinical protocol criteria and was confirmed in 55 (79%). The clinical presentation of patients ranged from sudden breathlessness (98,18%) to sudden cardiac arrest in 3 cases and the most frequent symptoms was pleuritic chest pain (76.36%) and less – hemoptysis (23.46%). The filling defects were determined on CTPA at the level of the: pulmonary trunk – in 7.2%, bilateral left main pulmonary artery (PA) and right main PA – in 36,3%, left main PA – in 16.3%, right PA (mainly in the lumen of the distal portion) – in 32.7%, left PA (distal portion) – in 20.0%, bilateral at the level of lobar/segmental/subsegmental PA – in 89.0%, right PA increased diameter - in 76.4%. Conclusion: computed tomography pulmonary angiography diagnostic performance in pulmonary embolism is high and useful in cases of suspected PE, because it can confirm the diagnosis and reveal findings consistent with differential diagnosis.



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Keywords: pulmonary embolism, computed tomography, pulmonary angiography

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