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Mortality Evaluation in Patients with Provoked and Malignancy Related Pulmonary Thromboembolism: A Retrospective Cohort Study

Ümran Özden Sertçelik, İlim Irmak, <u>Aslı Öncel</u>, Berrin Er, Ebru Çelebioğlu, Ahmet Uğur Demir, Lütfi Çöplü

Department of Chest Diseases, Hacettepe University Schol of Medicine, Ankara, Turkey

Objectives: Pulmonary thromboembolism is the third most common cause of hospital mortality and is the most frequently preventable condition related to hospital mortality. Provoked pulmonary thromboembolism is associated with a temporary or permanent risk factor, such as; a history of previous operation within three months, presence of active cancer, immobilization, coagulation disorders, hormone replacement therapy, and other predisposing conditions underlying venous thromboembolism. In our study, we planned to investigate whether there were any differences in the direction of mortality and clinical-radiological presentation in patients with malignancy related PTE compared to those with other provoked PTE.

Methods: Our study is a retrospective cohort study consisting of consecutive patients who newly diagnosed with pulmonary thromboembolism and applied to our chest diseases clinic between January 2016 and January 2019. Patients were classified into two groups as non-malignant provoked (n=35) and malignancy related PTE (n=23) in terms of underlying risk factors. Mortality rates in the 1st and 3rd months were recorded via the Death Notification System. SPSS software was used to evaluate the data.

Results: The mean age of the total 58 patients was 60.6±16.3 and 24 (41.3%) were male. The incidence of malignancy related PTE was 39.6% (n: 23) of all cases. Of this group, 52.1% were women and 47.8% were men. 37.1% of the patients with provoked PTE were male and 62.8% were female. The mean age of the malignancy related PTE group was 60.3±14.03, and the provoked PTE group was 61.4±17.43, respectively. Mortality rate was 8.6% in the 1st and 26% in the 3rd month. In the group of malignancy related PTE, mortality in the third month was higher (p=0.03). When the cancer type distributions in the malignancy related PTE group were examined, the majority of the cases were found to be non-pulmonary cancers with a rate of 65.2%. While the risk assessment distribution was evaluated highly risked as 8.6% of the cases, the other risk levels were found to be close to each other.

Conclusion: According to the results of our study, the mortality rate in the 3rd month after pulmonary thromboembolism is higher in the presence of malignancy. It should be kept in mind that 3-month-mortality will be higher in the presence of underlying malignancy in pulmonary thromboembolism. There is a need for further research in larger patient series.

Keywords: Pulmonary thromboembolism, provoke embolism, mortality