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Title: Risk assessment of venous thromboembolism in lung cancer – Utility of Khorana model

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Body: Background: Venous thromboembolism (VTE) is a common and costly complication in patients with lung cancer. Research is focusing on identifying high-risk patients who might benefit from primary thromboprophylaxis. For this purpose, Khorana built a predictive model of VTE in cancer patients receiving chemotherapy as outpatients, including 5 independent risk factors: site of cancer, pre-chemotherapy platelet count, hemoglobin level or use of red cell grow factors, leukocyte count and body mass index. Aim: To evaluate the utility of the Khorana model to predict VTE in lung cancer patients undergoing chemotherapy. Methods: We conducted a retrospective study including all patients diagnosed with lung cancer between January and July/2011 who underwent chemotherapy as outpatients in Pulido Valente Hospital, in Lisbon. Risk for TVE according to Khorana model was calculated in patients with and without TVE. Results: From 241 patients, 6 developed pulmonary embolism (2,5%), 12 deep venous thromboembolism (5,0%) and 2 had both (0,8%), for an overall rate of VTE of 8,3%. Adenocarcinoma, metastatic disease and history of cerebrovascular disease were significantly (p<0.05) more common in the group of patients with TVE. Using Khorana model, 35,0% of patients were at high risk for VTE in the group of patients with TVE, compared to 14,3% in the group without (p=0,016). Conclusion: In our experience the Khorana model proved to be useful in predicting TVE in a cohort of lung patients receiving chemotherapy. The development of risk-assessment models of TVE for lung cancer that integrate other risk factors specific for this type of cancer should although be encouraged.