A retrospective audit of venous thromboembolism (VTE) in solid tumor cancer patients at a tertiary hospital

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Aim/Background: VTE is increasingly diagnosed incidentally in cancer patients and is a significant cause of morbidity and mortality. Khorana has developed a predictive VTE risk score for cancer patients ("Khorana score") based on tumor type, full blood count and BMI. This study aims to assess the relationship between VTE diagnosis in solid tumor patients and a number of variables including: Khorana score, tumor type, systemic treatment type and three-month mortality outcomes specifically considering differences in incidental and symptomatic VTE.

Methods: A retrospective audit of solid tumor patients diagnosed with VTE between July 2013 and July 2015 was conducted at a tertiary hospital in Melbourne, Australia. Data was obtained by review of pharmacy and patient records. Baseline demographic, clinical and haematological parameters were recorded. A Khorana score was calculated retrospectively for each patient.

Results: 63 patients were included in the study. Most patients were male (62%) and had stage IV disease (81%). The mean age was 63. Lung cancer was the most common tumor type (38%) followed by colon (14%) and breast (13%). Most patients (52%) had a VTE risk factor in addition to cancer. VTE was diagnosed incidentally in 21% of patients. 59% of patients had received chemotherapy, 11% biologic or targeted therapy (of whom 57% had received bevacizumab) and 37% no systemic treatment. Three months post VTE diagnosis overall mortality was 29%; for patients with incidental VTE it was 8% and for symptomatic VTE it was 34%. Retrospectively calculated Khorana scores demonstrated that 27% of patients would have been considered at low risk of VTE at time of VTE diagnosis, 65% at intermediate risk and 8% at high risk.

Conclusions: In this study incidental VTE resulted in better mortality outcomes than symptomatic VTE. However, given the small number of patients included with incidental VTE (only 13 patients) one cannot conclude there is a significant difference in mortality between cancer patients with incidental versus symptomatic VTE. In addition, the majority of patients had intermediate- or high-risk Khorana scores and lung cancer was by far the most common tumor type. These latter findings are consistent with Khorana’s VTE risk model in cancer patients.

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