

Catheter-associated thrombosis: thromboprophylaxis for cancer patients who carry factor V Leiden?

Patients with cancer are at high risk of developing venous thromboembolism [1]. In the treatment of deep-vein thrombosis (DVT), there are no unequivocal indications for testing for the presence of thrombophilic abnormalities in either patients or their relatives [2]. However, it has been reported recently that overall, the risk of venous thrombosis in the presence of the factor V Leiden mutation was three-fold increased compared with non-carriers and that patients with cancer and factor V Leiden had a two-fold increased risk of venous thrombosis compared with non-carriers with cancer [3]. In addition, a retrospective cohort study among unselected cancer patients [4] and a cohort study of patients with gastrointestinal carcinoma [5] reported a relative risk of venous thrombosis of 3.1 and 4.4, respectively, for cancer patients with the factor V Leiden mutation compared with cancer patients without the factor V Leiden mutation.

The use of indwelling central venous catheters (CVCs) may be very useful in different clinical situations, including children undergoing anticancer treatment [6]. However, subclavian vein

thrombosis is a well-recognized complication following CVC insertion. Concerning CVC-associated thrombosis, two recent prospective trials [7, 8] have shown that the rate of CVC-associated thrombosis is relatively low, when measured by either venography or clinical outcome. In the Editorial accompanying these trials [9] it is reported that 'it is difficult to recommend routine antithrombotic prophylaxis in cancer patients with central venous catheters'. However, common inherited abnormalities in blood coagulation contribute substantially to CVC-related thrombosis [10]. In fact, it has been reported that factor V Leiden is accountable for 17.3% of all thrombosis in patients fitted with central venous catheters [11]. Regarding the aforementioned randomized trials [7, 8], no mention is made about the prevalence of factor V Leiden. Moreover, it has been reported that in breast cancer patients, who developed CVC-associated DVT while receiving continuous infusion 5-fluorouracil-based chemotherapy, the prevalence of factor V Leiden may be five times higher than in those without thrombosis, giving a six-fold greater relative risk [12]. However, these findings derive from a case-control study and, for this reason, it is difficult to directly infer absolute risks or derive statements about thromboprophylactic strategies.

Extensive testing for factor V Leiden in cancer patients receiving a CVC is not recommended [3]. However, in patients who are candidates for continuous infusion chemotherapy and presenting previous recurrent venous thrombosis, it could be advisable to propose an alternative cytotoxic treatment not requiring continuous infusion and the implantation of CVC, considered the strong impact on clinical practice of symptomatic CVC-related thrombotic complications.

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