Background: Deep Venous thrombosis (DVT) is one of the serious adverse events associated with bevacizumab, which is also one of the most notable complications associated with peripherally inserted central catheters (PICCs). However, there was no report about their correlation directly. The purpose of this study was to explore whether the use of PICCs increases the risk of DVT in advanced colorectal cancer and lung cancer patients with bevacizumab.

Methods: From June 2011 to April 2017, patients with documented advanced colorectal cancer and lung cancer who received bevacizumab were selected from West China hospital log-out registries. The patients inserted with central venous catheters (CVGs) or ever had thrombosis were excluded. According to whether use PICCs or not, patients were divided into two groups. The incidence of DVT during the use of bevacizumab between two groups was compared. Many risk factors were also analyzed.

Results: A total of 217 patients received bevacizumab were included in this analysis. 186 patients were colorectal cancer, 31 were lung cancer. Among them, 137 patients were inserted with PICCs and 80 patients were not. 5.1% (11/217) patients had DVT during the use of bevacizumab. 4 cases had upper extremity vein thrombosis, 1 had subclavian vein thrombosis and others were lower extremity vein thrombosis. Single factor analysis revealed that patients inserted with PICCs were more likely to have DVT than others (6.6% vs. 2.5%, P = 0.318), but it had no statistical difference. The incidence of DVT was higher in patients with diabetes mellitus (DM) than non-(DM) (21.1% vs. 3.5%, P < 0.05). Logistic analysis revealed that the use of PICCs had no statistical significance for the occurrence of the DVT. However, diabetes was a risk factor for DVT in advanced colorectal cancer and lung cancer patients with bevacizumab.

Conclusions: Peripherally inserted central venous catheters did not increase the risk of DVT in advanced colorectal cancer and lung cancer patients with bevacizumab. The patients with diabetes mellitus may be prone to develop DVT, whom we should manage more carefully during the use of bevacizumab.

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