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Letter

## Considering Colorectal Cancers as a Major Risk Factor for VTE

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## Dear Editor,

Colorectal cancer affects both genders and is the third most common cancer globally. It is also the third leading cause of cancer-related deaths (1, 2). Venous thromboembolism (VTE) is a frequent complication in cancer patients that can disrupt cancer treatment and result in severe complications or death. Thromboembolic events are the second most common cause of death among cancer patients (2).

It is widely acknowledged that the administration of thromboprophylaxis can significantly reduce the likelihood of VTE, or venous thromboembolism. To achieve this objective, several criteria have been established, and one of the most prominent ones is the Khorana risk score. This score is primarily intended for cancer patients who are mobile and is based on multiple variables, including the type of cancer. For instance, cancers that have a higher probability of VTE, such as stomach and pancreas cancers, are assigned 2 points, while those with a lower risk, such as lung, lymphoma, gynecological, bladder, or testicular cancers, receive 1 point. By utilizing this score, healthcare professionals can identify those cancer patients most at risk of developing VTE and take proactive measures to prevent it (3, 4). It is essential to give special attention to the modification of the scoring system in the Khorana risk score. This is because there is a strong connection between CRC and VTE, and several factors contribute to an increased risk of VTE. These factors include major abdominal surgeries lasting more than 3 hours, prolonged immobility after surgery, the use of thrombogenic medications such as chemotherapeutic agents, advanced age, obesity, high metastatic risk during diagnosis, peritoneal carcinomas, and CRC undergoing hyperthermic intraperitoneal chemotherapy (HIPEC), significant anemia requiring blood transfusion, smoking, and sedentary lifestyle. It is essential to take these factors into account to manage VTE risk effectively. Moreover, the introduction of new thromboprophylaxis drugs, which not only offer substantial benefits but also pose a lower risk of bleeding (a major concern when prescribing anticoagulants to these patients), has raised the prospects for a better quality of life for them (5).

In the cardio-oncology department of Shahid Rajaei Hospital in Iran, some patients with colorectal cancer experienced symptoms such as dyspnea, edema, leg length discrepancy, chest pain, and thrombosis in various organs, including the heart. Echocardiography showed thrombosis in the RA, RV, and LV. While this is an important issue, further randomized controlled trials are necessary to confirm these findings of colorectal cancer. We suggest modifying the thromboprophylaxis scoring system to increase awareness, improve prognosis, and enhance the quality of life for colorectal cancer in the creation of thromboembolism.

## Footnotes

**Authors' Contribution:** All authors had the same role in this letter and its suggestion for treatment of colorectal cancer.

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## References

- Ades S, Pulluri B, Holmes CE, Lal I, Kumar S, Littenberg B. Risk factors for venous thromboembolism in metastatic colorectal cancer with contemporary treatment: A SEER-Medicare analysis. *Cancer Med.* 2022;11(8):1817–26. [PubMed ID: 35129311]. [PubMed Central ID: PMC9041082]. https://doi.org/10.1002/cam4.4581.
- Rees PA, Clouston HW, Duff S, Kirwan CC. Colorectal cancer and thrombosis. Int J Colorectal Dis. 2018;33(1):105-8.

[PubMed ID: 29127473]. [PubMed Central ID: PMC5748414]. https://doi.org/10.1007/s00384-017-2909-2.

- Khorana AA, Francis CW, Culakova E, Kuderer NM, Lyman GH. Frequency, risk factors, and trends for venous thromboembolism among hospitalized cancer patients. *Cancer*. 2007;**110**(10):2339–46. [PubMed ID: 17918266]. https://doi.org/10.1002/cncr.23062.
- Mulder FI, Candeloro M, Kamphuisen PW, Di Nisio M, Bossuyt PM, Guman N, et al. The Khorana score for prediction of venous thromboembolism in cancer patients: a systematic review and meta-analysis. *Haematologica*. 2019;**104**(6):1277-87. [PubMed ID: 30606788]. [PubMed Central ID: PMC6545838]. https://doi.org/10.3324/haematol.2018.209114.
- Alcalay A, Wun T, Khatri V, Chew HK, Harvey D, Zhou H, et al. Venous thromboembolism in patients with colorectal cancer: incidence and effect on survival. J Clin Oncol. 2006;24(7):1112-8. [PubMed ID:16505431]. https://doi.org/10.1200/JCO.2005.04.2150.