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Commentary

Anticancer Therapies and Increased Thromboembolic Risk for the Importance of Cancer Care

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DESCRIPTION

Cancer remains one of the most formidable challenges to public health globally, with treatment often involving aggressive therapies such as chemotherapy, radiation, and targeted therapies. While these interventions have revolutionized cancer care and improved survival rates, they also come with potential side effects and complications. One such complication that has gained increasing recognition is the elevated risk of thromboembolic events, including Deep Vein Thrombosis (DVT) and Pulmonary Embolism (PE), associated with certain anticancer therapies. In this article, we examine into the mechanisms underlying this link and explore strategies for managing thromboembolic risk in cancer patients undergoing treatment.

Thromboembolic risk in cancer patients

Thromboembolic events occur when blood clots form in the circulatory system, obstructing blood flow and potentially leading to serious complications such as organ damage or stroke. Cancer patients are known to have an increased risk of thrombosis compared to the general population, a phenomenon often referred to as Cancer-Associated Thrombosis (CAT). This heightened risk is attributed to a combination of factors, including cancer-related inflammation, endothelial dysfunction, and activation of the coagulation cascade.

Role of anticancer therapies

In addition to the inherent thromboembolic risk associated with cancer itself, certain anticancer therapies can further exacerbate this risk. Chemotherapy agents such as platinum-based drugs, as well as targeted therapies like angiogenesis inhibitors and immunomodulators, have been implicated in promoting a prothrombotic state by various mechanisms. These may include endothelial cell injury, platelet activation, and perturbations in the coagulation cascade, leading to an imbalance between procoagulant and anticoagulant factors.

Furthermore, radiation therapy, particularly when administered to sites with a high thromboembolic risk such as the pelvis or abdomen, can damage blood vessels and trigger a local inflammatory response, further predisposing patients to thrombotic events. The cumulative effect of these therapies, especially when combined or administered concurrently, can significantly increase the thromboembolic risk in cancer patients.

Managing thromboembolic risk

Given the substantial impact of thromboembolic events on morbidity and mortality in cancer patients, proactive measures to manage thromboembolic risk are essential. This includes risk assessment and stratification based on individual patient factors, such as cancer type, stage, and treatment regimen. Patients deemed to be at high risk may benefit from thromboprophylaxis with anticoagulant medications such as Low Molecular Weight Heparin (LMWH) or Direct Oral Anticoagulants (DOACs).

Additionally, patient education and awareness regarding the signs and symptoms of thromboembolic events are crucial for early detection and intervention. Healthcare providers should be vigilant in monitoring patients for signs of Venous Thromboembolism (VTE), such as leg swelling, chest pain, or shortness of breath, and promptly initiate diagnostic evaluation and treatment as needed.

Furthermore, ongoing research efforts are focused on identifying novel biomarkers and predictive models to better stratify thromboembolic risk in cancer patients and optimize thromboprophylaxis strategies. Moreover, studies exploring the potential role of targeted anticoagulant therapies and adjunctive agents to mitigate thromboembolic risk without compromising cancer treatment efficacy are underway.

The association between anticancer therapies and increased thromboembolic risk underscores the importance of a multidisciplinary approach to cancer care that integrates oncology, hematology, and thrombosis expertise. By understanding the mechanisms underlying thrombosis in cancer patients and implementing proactive strategies for risk assessment and management, healthcare providers can minimize the burden of thromboembolic complications and optimize outcomes for cancer patients undergoing treatment. As we

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continue to unravel the complexities of cancer-associated thrombosis and refine thromboprophylaxis strategies, we move closer to achieving personalized and comprehensive care for individuals fighting cancer.