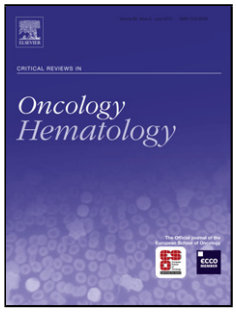

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AN OVERVIEW OF HEMATOPOIETIC STEM CELL TRANSPLANTATION RELATED THROMBOTIC COMPLICATIONS

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Abstract:

Thrombotic episodes are far less common than bleeding complications after hematopoietic stem cell transplantation (HSCT). However, they lead to significant morbidity and mortality. These complications are classified into four groups, including venous thromboembolic events (VTE), catheter-induced thrombosis (CIT), transplant-associated thrombotic microangiopathy (TA-TMA) and sinusoidal obstruction syndrome (SOS) or veno-occlusive disease (VOD). The frequency of VTE is increased among patients undergoing HSCT due to some acquired conditions including underlying malignancy, infections, administration of myeloablative conditioning regimens and/or total body irradiation, prolonged hospitalizations leading to immobility and presence of central venous catheters. Central venous catheters provide a convenient long-term venous access during HSCT. But they may lead to VTE and related complications such as pulmonary embolism or post-thrombotic syndrome by inducing endothelial trauma and inflammation. TA-TMA is a heterogeneous, fatal disorder seen within 100 days post-transplant and presents with thrombocytopenia, hemolysis, acute renal failure, mental status changes and involvement of other organs. SOS or VOD is another life threatening complication occuring within the first 35-40 days following a myeloablative regimen and presents with painful hepatomegaly, weight gain and elevated serum bilirubin