

Thromboembolism: A Leading Cause of Deaths Globally

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About the Study

Thromboembolism is medically considered as a blood clot (thrombus) that forms in a blood vessel, which is carried by the bloodstream to block another blood vessel. When an unattached mass of any sort like clay, fat deposits, and any materials (called an embolus) causes an obstruction to the blood flow, the blockage is referred as an embolism. The clot may obstruct the blood flow to the lung (pulmonary embolism), brain (stroke), gastrointestinal tract, kidneys, or leg. Thromboembolism is a significant cause of morbidity (disease) and mortality (death), especially in adults. Treatment may involve anticoagulants which are considered as blood thinners, aspirin, or vasodilators which relax and widen the blood vessels and clear the route for blood transportation. Thromboembolism is a dangerous condition that can affect multiple organs like lung, brain, GIT (Gastro-Intestinal Tract), causes organ damage and even lead to death. Based on the type of blood vessels affected, thromboembolism is categorized into venous thromboembolism and arterial thromboembolism. Venous thromboembolism occurs when a blood clot blocks a vein. Venous thromboembolism often starts in the legs with a condition known as Deep Vein Thrombosis (DVT). PE (pulmonary embolism) can be fatal depending on the site and the degree of the embolus formed. When a blood clot breaks off and blocks an artery, considered as arterial thromboembolism leads to ischemia and sometimes infarction (tissue death due to an inadequate blood supply to the location). Arterial thromboembolism often occurs in the feet and legs. In some cases, it may occur in the brain, causing a stroke, or in the heart, causing a myocardial infarction (heart attack). Less common affected sites include the intestines,

kidneys and eyes. The sudden onset of pain is a characteristic symptom of arterial thromboembolism. The most common symptoms include numbness, limb coldness, tingling, pain, muscle spasms, muscle weakness, pale skin, and decreased pulse in the affected limb. Arterial thromboembolism leads to heart attack symptoms include chest pains, shortness of breath (SOB), profuse sweating, weakness, lightheadedness, nausea, vomiting, and heart palpitations. Arterial thromboembolism stroke leads to symptoms like sudden difficulty walking, speaking, and understanding as well as paralysis or numbness of the face, arm, or leg. Arterial thromboembolism is strongly linked to the risk factor of heart disease. It includes obesity, older age, sedentary lifestyle, high blood pressure, cigarette smoking, endocrinology problems, and history of cardiovascular disease, mitral stenosis and atrial fibrillation. Diagnosis of arterial thromboembolism includes blood tests, Doppler or duplex ultrasound, echocardiogram, Trans-Esophageal Echocardiography (TEE), Myocardial Contrast Echocardiography (MCE), Plethysmography and Transcranial Doppler examination. Arterial thromboembolism and treatment of venous thromboembolism are the same. This includes the use of anticoagulants and thrombolytics (clot thinners) as well as antiplatelet drugs like Plavix (clopidogrel) that prevent platelets from clumping together. If the block is severe the subject requires surgery. This may include embolectomy procedure which is an emergency procedure often as the last resort because permanent occlusion of a significant blood flow to an organ leads to necrosis, arterial bypass surgery through which reroute the blood supply to the location, and angioplasty which widens the blood vessel for the blood flow with the help of balloon catheter with or without a stent.

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