



Treatment Methods for Isolated Deep Vein Thrombosis

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DESCRIPTION

Deep vein thrombosis occurs in the veins of the legs, thighs, and pelvis. It can lead to a life threatening condition called pulmonary embolism, which is a common problem all over the world. The incidence of venous thromboembolism in the United States is approximately 600,000 per year. Approximately 30% of patients undergoing major surgery develop deep vein thrombosis, and some cases may not be detected. High risk procedures such as knee or hip prosthesis transplantation to these joints or other orthopedic procedures have an incidence of deep vein thrombosis of approximately 50%-60% compared to distal deep vein thrombosis. Thrombosis is the formation of blood clots in any part of the circulatory system. Blood clots can block blood vessels and cause serious health effects.

Deep vein thrombosis in the thigh carries a risk of Pulmonary Embolism (PE). This occurs when the blood clot loses its attachment to the inside of the vein, leaves the leg, and stays in the pulmonary artery, the main blood vessel of the lung. If the blood clot is large enough, it can completely block its arteries and cause death.

Blood flow through the veins in the legs flows upwards rather than downwards, so mechanical assistance is generally required. The calf muscles act as a pump. The contracting muscles compress the veins and push the blood in those veins toward the heart. This process is assisted by a venous valve that guides blood flow and opposes gravity. Anything that slows blood flow through deep veins can cause DVT. This includes injury, surgery, or sitting or lying down for extended periods of time. There is debate as to whether restrictions on long haul international flights may contribute to the risk of DVT. This condition is known as "economic class syndrome".

Deep vein thrombosis is a major complication in orthopedic patients and patients with cancer and other chronic illnesses. DVT can be a chronic disease. Patients who survive the first DVT episode are more prone to chronic lower limb swelling and pain because the thrombotic process can damage the venous valves and lead to venous hypertension. In some cases, skin ulcers and restricted mobility prevent patients from living a

normal active life. In addition, patients with DVT are prone to recurrence. When DVT and PE develop as a complication of surgical or medical condition, in addition to the risk of death then it may leads to longer hospital stays and higher medical costs.

Venous thrombosis is an intravascular deposit of fibrin and red blood cells that alters the components of platelets and white blood cells. These are usually formed in areas of slow or impaired large sinus flow or in the leaflets of deep veins in calves or a venous segment that has been directly traumatized. Venography is a test that involves injecting a dye into a vein. This dye makes it possible to see blood flow through veins by X-ray, CT scan, or MRI.

Following are the risk factors and are considered as causes of deep venous thrombosis:

- Varices de la safena magna.
- Reduced blood flow immobility such as bed rest, general anesthesia, operations, stroke, and long flights.
- Increased venous pressure mechanical compression or dysfunction that leads to decreased venous flow like congenital anomalies that increase resistance to neoplasia, pregnancy, varicose veins, or drainage.
- Mechanical damage to veins trauma, surgery, peripheral venous catheters, previous DVT, and intravenous substance abuse.
- Increased blood viscosity polycythemia vera, thrombocytosis and dehydration.
- Anatomic variations in venous anatomy can contribute to thrombosis.

Increased risk of coagulation

- Genetic deficiency anticoagulant proteins C and S, antithrombin III deficiency, factor V Leiden mutation.
- Acquired cancer, sepsis, myocardial infarction, congestive heart failure, vacuities, systemic lupus erythematosus and lupus anticoagulants, inflammatory bowel disease, nephrotic syndrome, burns, oral estrogen, smoking, hypertension, and diabetes.

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Treatment of DVT depends on the location of the DVT and may include the use of compression stockings, anticoagulants, IVC filter insertion, thrombolysis, or thrombotomy.

DVT of the vein below the knee may only require monitoring with repeated ultrasound scans and the use of compression stockings, depending on the particular vein in which the blood clot is located. Anticoagulants are drugs that prevent the further

formation of blood clots. Anticoagulants come in many forms, including oral, Intra Venous (IV), and injectable. Anticoagulants are usually given to patients at low risk of DVT recurrence 36 months after the initial diagnosis of DVT. Further evaluation by a hematologist may be needed to determine if lifelong anticoagulant therapy is needed, especially for relapsed or uninduced DVT.