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This DVT Awareness Month, Interventional Radiologists Urge Greater Awareness of Circulatory Damage Caused by DVT

Widely Available Nonsurgical Treatment Can Prevent Vein Damage from Blood Clots

Fairfax, Virginia (March 10, 2005) – The formation of a blood clot, known as a thrombus, in a deep leg vein can be a very serious condition that often causes permanent damage to the leg veins and vein valves, known as post-thrombotic syndrome. Early treatment with blood thinners in the emergency room is important to prevent a life-threatening pulmonary embolism, but blood thinners do not treat and dissolve the existing clot, which remains in the leg. About half of all DVT patients treated with blood thinners alone develop post-thrombotic syndrome in the affected leg, resulting in abnormal pooling of blood in the leg, chronic leg pain, fatigue, swelling, and in extreme cases, severe skin ulcers. As a result, they often have to plan their daily activities around their legs, knowing that if they stand or exercise too long, their legs will swell or be painful.

Post-thrombotic syndrome is caused by a combination of vein valve damage and blocked blood flow in the vein from residual thrombus. Long-term studies show that about 50 percent of deep vein thrombosis (DVT) patients treated with blood thinners alone develop post-thrombotic syndrome. However, the clot can be treated at its source with catheter-directed thrombolysis, which breaks up the clot and prevents post-thrombotic syndrome. In this procedure, an interventional radiologist threads a catheter up the leg vein into the clot, using imaging for guidance, then delivers the clot-busting drug directly into the clot. Catheter-directed thrombolysis is an established, effective medical treatment that is widely available. It provides relief of pain and swelling and reduces the likelihood of post-thrombotic syndrome, while restoring blood flow in greater than 85 percent of cases. Early removal of the blood clots gives patients their best chance to avoid disabling symptoms such as pain, swelling, and ulcer formation in the long run. Catheter-directed thrombolysis is most effective when performed within 10 days after symptoms begin.

Post-Thrombotic Syndrome

Post-thrombotic syndrome is an under-recognized, but relatively common sequela, or aftereffect, of having DVT if treated with blood thinners (anticoagulation) alone, because the clot remains in the leg. Contrary to popular belief, anticoagulants do not actively dissolve the clot, they just prevent new clots from forming or a piece of the existing clot from breaking off and causing a deadly pulmonary embolism. Although the body normally dissolves a clot over time, the vein often becomes damaged in the meantime.

While irreversible damage used to be considered an unusual, long-term sequela, it actually occurs frequently, in about 50 percent of DVT patients, and can develop within two months of developing DVT. "Physicians and patients need to be aware that blood clots cause permanent damage to the leg veins, which can lead to serious disability. Blood thinners must be given to prevent pulmonary embolism, but they do not dissolve the clot. It is important for DVT patients to be evaluated by an interventional radiologist to determine if catheter-

directed thrombolysis is needed," says Suresh Vedantham, M.D., Interventional Radiologist, Washington University, St. Louis.

Treatments

Catheter-Directed Thrombolysis:

Catheter-directed thrombolysis is performed under imaging guidance by interventional radiologists. This nonsurgical procedure, performed in a hospital's interventional radiology suite, is designed to rapidly break up the clot, restore blood flow within the vein, and potentially preserve valve function to minimize the risk of post-thrombotic syndrome. The interventional radiologist inserts a catheter into the popliteal or other leg vein and threads it into the vein containing the clot using imaging guidance. The catheter tip is placed into the clot and a "clot-busting" drug is infused directly into the thrombus (clot). The fresher the clot, the faster it dissolves—generally in one to two days. Any narrowing in the vein that might lead to future clot formation can be identified by venography, an imaging study of the veins, and treated by the interventional radiologist with balloon angioplasty or stent placement.

In patients in whom this is not appropriate and blood thinners are contraindicated, an interventional radiologist can insert a vena cava filter, a small device that functions like a catcher's mitt to capture blood clots, but allows normal liquid blood to pass.

DEEP VEIN THROMBOSIS FACTS

The deep veins that lie near the center of the leg are surrounded by powerful muscles that contract and force deoxygenated blood back to the lungs and heart. One-way valves prevent the back-flow of blood between the contractions. When the circulation of the blood slows down due to illness, injury or inactivity, blood can accumulate or "pool," which provides an ideal setting for clot formation. One in every 100 people who develop DVT dies. In the United States alone, 600,000 new cases are diagnosed each year.

Those at risk for DVT include people with a previous DVT or family history of DVT, immobility, such as bed rest or sitting for long periods of time, age above 40, hormone therapy or oral contraceptives, pregnancy or post-partum period, previous or current cancer, recent surgery; limb trauma and/or orthopedic procedures, coagulation abnormalities and obesity. Symptoms include swelling of the leg or lower limb, calf/leg pain or tenderness, leg fatigue, warm skin, discoloration of the legs, and increased visibility of surface veins.

About Interventional Radiologists

Interventional radiologists are board-certified physicians who specialize in minimally invasive, targeted treatments performed using imaging for guidance to treat diseases nonsurgically through the blood vessels or through the skin. By combining diagnostic imaging expertise with advanced procedural skills, interventional radiologists perform minimally invasive treatments that have less risk, less pain, and less recovery time than open surgery. Interventional radiologists pioneered minimally invasive modern medicine with the invention of angioplasty and the catheter-delivered stent, which were first used to treat peripheral arterial disease.

Interview opportunities, medical illustrations, and broadcast quality video footage are also available to reporters by emailing Comm@SIRweb.org.

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