

POOR VENOUS CIRCULATION To The Legs

~BY DR. KAMRAN GOUDARZI~

Quite commonly arteries are confused with veins when one is thinking about circulation in the legs. I was rather surprised when recently on CNN the anchorwoman started talking about veins when she really meant arteries. Dr. Sanjay Gupta very discreetly corrected this.

The blood flows to the legs from the heart through the arteries. The force which pushes this blood through the arteries to legs and feet is generated by the heart. The pressure is almost none on the vein end.

The blood flows back to the heart via the force generated by the calf muscle. The one way valves in the vein allows the blood to move back through to the heart with each calf muscle contraction. When the calf muscles relax, the blood tries to flow backwards but the one way venous valves stop this from happening.

Needless to say that when these valves become defective (as seen in varicose veins) this flow is diminished. This results in increased swelling in the legs, tired feeling, calf pains, skin changes and pigmentation and in some cases ulceration of the skin. About 25 million Americans have venous disease. 7 million exhibit serious symptoms such as edema, skin changes and ulceration. About 1 million people seek formal medical advice annually and do so for symptoms of disease of the veins. About 80% of patients with venous insufficiency are treated conservatively with observation, leg elevation and support stockings. The remained are treated surgically. Early on mild venous insufficiency produces low level pain, edema, bruising, throbbing and leg cramping. In one recent study it was felt that a good proportion of patients with restless leg syndrome have venous insufficiency. As the disease progresses, patients can develop increasing swelling of the legs, thickening and dark pigmentation of the skin and severe soft tissue ulceration.

We know from hemodynamics and clinical experience that eliminating high pressure in diseased veins can improve symptoms and lead to clinical improvement. When standing erect, the pressure in the veins of the legs are very high but drop by about half on walking, secondary to the calf pump.

Although the morbidity secondary to venous insufficiency and varicose veins is significant, the most devastating consequence is due to life threatening venous thromboembolism to the lungs and deep



vein thrombosis (DVT). We know some definite risk factors and some factors that although are suspect have not necessarily been clinically proven. The definite risk factors are as follows.

Heredity: As someone once said "Next time, chose your parents more carefully!" In one study 90% of people who had both parents with varicose veins, developed varicose veins. If only one parent had varicose veins, then one has a 25% chance of developing varicose veins if one is a man and 62% chance if one is a woman. However, 20% of patients who develop varicose veins have neither parent involved.

Other factors which are suspects in venous insufficiency are diet, abdominal strain, tight clothing and leg crossing. We also know that as we age, the venous insufficiency and varicose veins get worse.

High fiber diet is evacuated in 35 hours, low fiber in about 77 hours. Needless to say a high fiber diet, leading to less distension and abdominal strain, should improve or slow down the progression of venous disease. The same theory applies to increase strain to urinate, secondary to an enlarged prostate.

Wearing a girdle, tight clothing and obesity contribute to worsening of varicose veins as does crossing the legs.

Occupations that involve prolongs standing or sitting also contribute to poor venous circulation. This disease is also more associated with tall people due to increased pressure in the veins of the legs because of

the height of the heart above the feet directly affects the pressure in the veins. Elevating the legs above the heart allows drainage of venous blood back to the heart. About 60% of circulating blood rests in the veins. In a diseased state this could be higher. The drainage of blood in the heart allows this to be pumped back into circulation.

Move your legs frequently, pushing your feet down (similar to pushing on the gas pedal of the car) 10 times will pump blood out of the leg. Repeat this every 10 minutes while standing or sitting and try to walk for at least 2 minutes every ½ hour. Avoid wearing high heels since this interferes with the calf pump action. Maintain support hose, try graduation stockings. Some physicians staff will help fit you with these stockings.

Endovenous laser ablation is an office procedure which has replaced to a large extent stripping of varicose veins in the operating room. Since laser treatment of varicose veins has been available to me, I have not required to do a single vein stripping in the operating room. This invariably required general anesthesia with a fair amount of blood loss and overall around 40% recurrent rate. With the office laser ablation of varicose veins our recurrence rate at the Vein and Laser Center of Wilmington has been less than 3%.

Endovenous laser treatment of saphenous veins was developed during the 1990's. However it took until 2001 when Min, Navarro and Bone published their first relevant paper about this. This is when the whole

Phlebology community started paying serious attention. We, at the Vein and Laser Center of Wilmington started laser ablation soon after. We have performed over 1500 laser treatments of varicose veins since then.

Additionally because no relevant injury to the skin happens during endovenous laser treatment, the cosmetic outcome is usually excellent. I use no stitches and the patients are encouraged to walk from the day of surgery. Because of recent advancement in the treatment of varicose veins and venous disease of the lower extremity this is now introduced as a subspecialty. There are Board Exams offered in this field to candidates who meet certain criteria in the art of Phlebology.



Dr. Goudarzi completed surgical training in the United States and medical school in London, England. The American Medical Association (AMA) approved the recognition of Phlebology as a self designated practice specialty recently. Dr. Kamran Goudarzi is currently one of only less than 250 physicians in the United States that is Board Certified in Phlebology from the American Board of Phlebology. He continues to practice in General Surgery and Vascular Surgery but has dedicated a good portion of his work to the treatment of venous disease. He pioneered the Vein and Laser Center of Wilmington around 2001 and has been performing laser ablation of varicosities since then. This center was one of only 4 centers in North Carolina. At the time of inception it was also the only one of its type in Wilmington, NC. Dr. Kamran Goudarzi has performed 1500 laser venous procedures since then. Dr. Kamran Goudarzi provides free venous consultations at his office.