Keeping in circulation

the official newsletter of the Vascular Disease Foundation

VASCULAR DISEASE FOUNDATION

SUMMER 2002
VOL. 2 NO. 2

our mission

The Vascular Disease Foundation's mission is "To reduce the widespread prevalence and affects of Peripheral Arterial Disease (PAD) by increasing public awareness of the benefits of its prevention, prompt diagnosis and comprehensive management."

inside this issue

Critical Limb Ischemia
Frequently Asked Questions
Stroke Awareness Month
In the News
A Daily Dose of Walking
Glossary of Medical Terms
Join Our Fight Against Vascular Disease
Leg Pain
Thanks To Our Supporters

Buerger's Disease: Not from Eating Hamburgers

Janet Smith came to our clinic with a sore on her left foot that after several months had not healed. Before she had the sore, Janet remembered feeling pain in the instep of her foot when walking. Her pain had become steadily worse, and eventually became more constant, occurring at night while lying in bed as well as when walking. Pain in the leg or foot when exercising indicated that she had intermittent claudication, a symptom that is common in persons with peripheral arterial disease (PAD). The development of pain at rest and sores were indicative of critical limb ischemia (CLI) (see page 2), which indicated that her vascular disease was quite advanced. Yet some aspects of her case were not typical for PAD. The history she told was remarkable because six years ago, at age 28, she had a gangrenous right second toe requiring peripheral bypass surgery and amputation. PAD is very uncommon in anyone less than 40 years of age, particularly in women. Unlike most patients with PAD, Janet did not have a history of high cholesterol, high blood pressure, diabetes, or other risk factors that are associated with artery blockage from plaque. However, she did have one risk factor that had increased her risk for arterial disease. She had smoked a pack of cigarettes each day for the past 18 years, starting when she was 16.

Janet's story is a typical one for Buerger's disease or Thromboangiitis obliterans (TAO). Thromboangiitis obliterans is a rare disorder characterized by inflammation of the small and medium arteries and veins. It affects about 8-11 per 100,000 of North Americans. The inflammation in TAO frequently leads to blockages of arteries of the lower segments of the arms and legs, and may cause claudication or rest pain and non-healing sores or ulcers (CLI). TAO occurs exclusively in individuals with a history of tobacco exposure of any kind, including smoking, chewing or snuff. This suggests that tobacco is an essential cause of TAO.

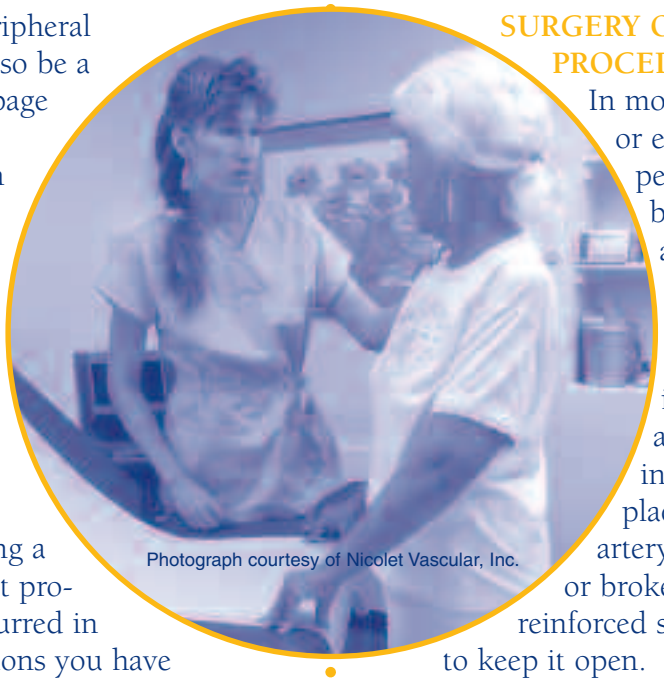
TAO is different from PAD, because it is not caused by atherosclerosis (plaque) buildup that causes a narrowing of the artery. Instead TAO is caused by inflammation of the artery wall, along with the development

continued on page 6

Critical Limb Ischemia

The lack of blood due to severe obstruction of the arteries may cause rest pain in the foot or toes. Rest pain is a severe pain that wakes you up at night, every night. It goes away or feels better if you let your leg hang over the side of the bed or even get up and walk around. The severe obstruction of the arteries may also cause the skin to break open and develop sores, ulcers or even gangrene. Chronic pain in the feet, ulcers or gangrene resulting from arterial obstruction is called Critical Limb Ischemia (is KEE mee uh) or CLI.

CLI is a very severe form of peripheral arterial disease (PAD). It can also be a result of Buerger's disease (see page 1). CLI needs comprehensive treatment by a vascular surgeon or vascular specialist. Ignoring it will not help, ever! This is not a condition that will improve on its own. The vascular specialist will need to verify that you have CLI as there are other conditions that may be similar, and treatment will vary. He or she will assess the status of the disease by doing a physical exam, finding out what procedures or treatments have occurred in the past and what other conditions you have such as diabetes, or heart disease. In addition, diagnostic tests will be performed to determine the severity of the disease and to identify the best treatment plan.



Photograph courtesy of Nicolet Vascular, Inc.

Treatment for CLI is very complex and individualized. The overall goal is to reduce the pain and improve blood flow to save the leg, and will likely include:

MEDICATIONS

Several medications may be prescribed to prevent further progression of the disease and to reduce the effect of contributing factors such as high blood pressure, high cholesterol and diabetes, and most certainly to reduce the pain. Also, medications to prevent clotting, or to fight infections may be prescribed.

SMOKING CESSATION

If you smoke, stop! It may save your leg and your life! (See the last issue of *Keeping in Circulation*, Vol.2 Issue 1)

ULCER CARE

Treatment will likely include medications and dressings for ulcers.

SURGERY OR ENDOVASCULAR PROCEDURES

In most persons with CLI, surgical or endovascular procedures will be performed so that oxygenated blood can flow again to the areas of skin breakdown. An endovascular procedure consists of a small incision through which a catheter is inserted to where the blockages occur. A balloon may be inflated (angioplasty) or the plaque may be scraped off the artery, or the clot may be removed or broken up (thrombolysis). A wire-reinforced stent may be left in the artery to keep it open. In more severe CLI, a bypass graft may be performed. This is a surgical procedure that uses either an artificial tube as a new artery or one of your veins to bring good blood flow to the needed area, bypassing where the blood flow is constricted. (See *Keeping in Circulation*, Fall 2001, Vol. 1 Issue 3.) In a few cases, the surgeon may cut open the artery and scrape out the plaque keeping the artery usable. The last recourse would be amputation of a toe, part of the foot, or leg.

Since treatment depends on the severity of the disease and many individual parameters, it is essential that someone with ulcers, or pain in the legs or feet when walking or at rest see a vascular specialist as soon as possible. The earlier a diagnosis can be made, the earlier treatment can be started with less serious consequences.

Eat Fish

Recent studies published in the *Journal of the American Medical Association (JAMA:* 287, 14:1815-21, 2002) and in the *New England Journal of Medicine (NEJM:* 346, 15:1113-8, 2002) both concluded that frequently eating fish can lower one's risk of coronary heart disease (CHD) and death from CHD.

Cholesterol Counts

Keeping cholesterol levels in normal ranges is important for overall vascular health, including Peripheral Arterial Disease and Critical Limb Ischemia. According to the National Heart, Lung and Blood Institute, your total cholesterol count should be less than 200. If you have PAD, your primary treatment goal is for your low density lipoprotein level (LDL) to be less than 100 mg/dl.

Newsletter Topics

If you have questions about vascular disease or suggestions for future newsletter topics, let us know. Send your questions or suggestions to "Keeping in Circulation" at the Vascular Disease Foundation, 3333 South Wadsworth, Suite B-104-37, Lakewood, CO 80227.

Recent Grants

The VDF has received educational grants recently from several organizations allowing the Foundation to continue to produce the newsletter, provide information and enhance our web site. We thank AstraZeneca, Sigma-Tau Research, Hutchinson Technology, and Nicolet Vascular for their support.

Free Subscription

Keeping in circulation™

For a FREE subscription to 'Keeping in Circulation," call 866-PAD-INFO toll free or write to the Vascular Disease Foundation, 3333 South Wadsworth, Suite B-104-37, Lakewood, CO 80227.

Frequently Asked Questions

Q. I hear the terms PVD and PAD used a lot when describing my disease. Is there a difference?

A. PVD stands for peripheral vascular disease and PAD stands for peripheral arterial disease. They are often used interchangeably. PVD was the standard description for many years, but following an international consensus agreement on definitions (Trans-Atlantic Inter-Society Consensus) healthcare professionals are switching to using PAD, because it more accurately described the atherosclerosis that affects the arteries. PVD is considered a broader term that encompasses more than atherosclerosis in the arteries.

Q. I was told my veins are refluxing (opening and closing improperly) causing a burning pain in the back of my thighs. I feel this burning mostly when I menstruate and occasionally when I do a lot of walking. I was told surgery might help. Could this be PAD and if so what should I do?

A. This is not PAD (peripheral arterial disease). Your veins return blood from your legs to your heart. Vein reflux means the valves, which help return blood, are not working correctly and leak. This is a relatively common problem in the superficial system of the veins in the legs and is associated with varicose veins. The deep veins may also reflux, which is more serious and may occur after deep venous thromboses (blood clots in the leg veins). The association with the menstrual cycle may indicate a condition called pelvic congestion syndrome, which can be associated with refluxing veins in the pelvic veins and can be associated with varicose veins.

Pain in the back of the thighs is an unusual location for pain due to venous problems. It would be important to be absolutely sure that your symptoms are related to the pain in the back of the thighs before having surgery. It would be important to see a certified vascular surgeon in your area, particularly one who is a member of a major national society such as the American Venous Forum or the American Association for Vascular Surgery, societies which are linked from our web site, at www.vdf.org.

If you have a question you would like our panel of experts to address in our next newsletter, please send it to info@vdf.org or The Vascular Disease Foundation, 3333 S. Wadsworth, Suite B-104-37, Lakewood, CO, 80227.

MAY IS STROKE AWARENESS MONTH: What you should know

Individuals with peripheral arterial disease (PAD) have been shown to have a high prevalence for stroke. Atherosclerosis in the arteries can speed the clotting process that can lead to stroke. The two diseases also share a common risk factor: High Blood Pressure. For these two reasons, we urge you to take advantage of Stroke Awareness Month—take time to learn more about stroke and stroke prevention, call 1-800-STROKES or visit www.strokeassociation.org or www.stroke.org.

According to the National Stroke Association:

- Every 53 seconds, someone in the United States experiences a stroke.
- Stroke is the third leading cause of death in this country.
- One-third of strokes occur in women under the age of 65.

A stroke, or "brain attack," occurs when blood flow to the brain is interrupted by a blood clot or when a blood vessel bursts. This lack of oxygen kills brain cells in the immediate area, often causing physical and emotional disabilities including speech problems, memory loss and paralysis.

High blood pressure is one of the key risk factors for stroke because it puts unnecessary stress on blood vessel walls. Some other risk factors include age, smoking, diabetes, PAD, heart disease or family history of heart disease or stroke, a TIA (mini-stroke), high cholesterol or atrial fibrillation (irregular heart rhythm).

For more information about stroke resources, visit our web site (www.vdf.org).

Symptoms of Stroke*

Call 911 for help if you have or think someone is having any of these symptoms. Treatments need to be initiated within a few hours to be most effective. The symptoms of stroke are distinct because they happen quickly:

- Sudden numbness or weakness of the face, arm, or leg (especially on one side of the body)
- Sudden confusion, trouble speaking or understanding speech
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, loss of balance or coordination
- Sudden severe headache with no known cause

*Source: NINDS National Institutes of Health

Photograph courtesy of Nicolet Vascular, Inc.

IN THE NEWS

National Institutes of Health Conference: Toward a Better Vision

The VDF Executive Director, Sheryl Benjamin, was invited to attend a Public Interest Organization conference organized by the National Heart, Lung and Blood Institute (NHLBI), which is part of the National Institutes of Health. Topics at the conference included ways to communicate health messages, involvement in clinical research and ways to fund research. As well, discussion focused on opportunities to exchange information with other non-profit disease-based organizations. The highlight for the Foundation was meeting with NHLBI staff to discuss a future national workshop focused on PAD education.

National Vascular Specialty Meetings: Our Allies in Education

The Vascular Disease Foundation was fortunate to participate in several meetings this spring to share our goals and mission with medical professionals. We attended the annual meetings of the **American College of Cardiology** held in Atlanta, the **Society of Cardiovascular and Interventional Radiology** held in Baltimore and the **International Union of Angiology** held in New York City. In addition, we had a strategy meeting with the board of the **Society for Vascular Nursing** and attended the **Scientific Symposium of Peripheral Arterial Disease Rehabilitation.** In June, we will be attending the meetings of the **Society for Vascular Medicine and Biology, the American Association for Vascular Surgery and the Society for Vascular Surgery.**

Fundraising Success

Our annual fall fundraising campaign was successful. According to Executive Director, Sheryl Benjamin, over three times the amount was raised in 2001 from the prior year. She added, "We really appreciate the wonderful support from the public and the vascular professionals who responded to our campaign."

A DAILY DOSE OF WALKING: IT'S GOOD MEDICINE

This is a new feature section, written by Mitzi Ekers, to help you improve your vascular health through exercise.

1. **Walk as if your life depended on it. Because it does! Walking increases your good (HDL) cholesterol, decreases the chance of blood clots, drives calcium into your bones and is a great stress and depression reliever.**

2. **Reward yourself...for making positive behavior changes in your activity status. Set a goal of walking at least five days a week. The distance or time doesn't matter at first. You are just trying to establish a healthy habit, not win a marathon. Then reward yourself each week that you achieve this goal.**

3. **Walk because you still can! So many people with PAD can't. If you can only go 20 steps, do it. Then rest. Then walk again. Start now.**

Author, Mitzi Ekers, MS, ARNP, is a nurse practitioner who has been working with vascular patients for more than 30 years. She is Director of Vascular Services at the Heart and Vascular Institute of Florida in St. Petersburg. She helped start both the Society for Vascular Nursing and the Society of Vascular Technology.

From our Glossary–Words beginning with "L" through "P"

You can view these terms and others used in the diagnosis and treatment of vascular disease on our web site. We've made them easy-to-understand to help you in talking with health care professionals. Each newsletter will cover a section from our glossary.

Lipids: Another term for fats that can be broken down into fatty acids.

Lipoproteins: Proteins that transport cholesterol and other fats to and from cells. LDL is the subtype most dangerous for peripheral arterial disease. HDL is beneficial in preventing atherosclerosis.

Non-invasive: Medical procedures or exams which do not involve needles, dye or x-ray.

Peripheral Arterial Disease (PAD): A common disorder that occurs in the artery segments of the non-cardiac circulatory system (legs, pelvis, neck, brain). The artery wall linings slowly become narrowed and rough clots formed due to built up cholesterol or plaque. It has major implications on a patient's life due to association with blockages in the heart and brain with potential for death from heart attack and stroke.

Peripheral Vascular Disease (PVD): Diseases of the veins, arteries and lymphatic circulatory system in the legs, pelvis, neck, brain (all areas but the heart) sometimes used synonymously for PAD.

Plaque: The built up material on the inner lining of an artery made up of cholesterol and fatty substances.

Buerger's Disease continued from page 1...

of clots in the small and medium sized arteries of the arms or legs causing the arteries to become blocked. Without blood flow below the inflamed artery or clots, the fingers, toes, and skin tissue do not receive adequate blood. This usually leads to enormous pain at rest or with exercise, sores may develop and may be slow to heal.

There are four key factors physicians use to diagnose TAO: **(1)** Rest pain or ulceration before 50 years of age, **(2)** tobacco use, and **(3)** tests indicating the arteries are blocked. Typical tests include artery blood flow measurements (such as the ABI, or other vascular laboratory tests, such as ultrasound), arteriography (pictures of the affected blood vessel obtained by injecting a dye via a catheter), and/or biopsy of the affected artery. As well, doctors would usually want to **(4)** exclude other causes for artery blockage or clot development. A physician would want to be certain that a clot did not develop from the heart or a large blood vessel and travel to the arm or leg (an embolus), that there had been no blood vessel injury or trauma, no local lesions such as a blood vessel cyst, no autoimmune diseases such as scleroderma, and no blood clotting diseases.

Unfortunately, knowledge about TAO is limited, and the long-term (greater than 15 year) risk of amputation and death is not well known. One widely cited study of 112 patients was gathered from the Cleveland Clinic Foundation from 1970 to 1987. The study revealed that skin ulcerations occurred among 76% of TAO patients. Additionally, 27% of TAO patients underwent one or more amputations (15% finger, 33% toe, 10% forefoot, 36% below the knee, 5% above the knee). Clots in the superficial veins of the arms and legs and Raynaud's phenomenon (fingers turning white and painful upon cold exposure) are also common. Despite these statistics, there is also good news. TAO almost never affects the arteries to the brain or heart, and thus life expectancy among persons with TAO is reported to be normal.

The treatment for TAO is immediate and complete tobacco cessation. Mayo Clinic physicians determined that TAO patients who continue to smoke have a high rate of amputation that persists up to 17 years after first diagnosis. The risk of amputation in TAO patients who stop smoking is much lower.

Janet had good fortune and a strong will. She stopped smoking and with aggressive wound care and the use of special shoes she was able to heal her sores and avoid another amputation. Visit **www.vdf.org** for links to more information about TAO.

Buerger's Disease is:

- **A hard diagnosis to establish accurately and usually requires a vascular specialist to be sure.**
- **Frightening due to the frequency of amputation.**
- **A disease of social isolation. People often feel like they're "the only one."**

Let the Vascular Disease Foundation help. Please let us know if you have experienced this devastating vascular disease, and if you're interested in linking up with others with TAO.

ABOUT THE AUTHOR

Dr. Leslie T. Cooper is a vascular specialist with the Department of Cardiovascular Diseases of the Mayo Clinic in Rochester, Minnesota.

Note: The name of the patient and specific details of her care were changed to protect her privacy.

Join Our Fight Against Vascular Disease

The Vascular Disease Foundation is a non-profit organization that depends on the support of your financial contributions, all of which are tax-deductible. Ways to support us include:

- ❤ Monthly or annual contribution (check, VISA or MasterCard)
- ❤ Online donation
- ❤ Establishment of a memorial fund
- ❤ Donation in a friend or family member's honor
- ❤ Gift of stock or other securities
- ❤ Creation of a named endowment
- ❤ Shop online through www.igive.com
- ❤ Include a gift in your will
- ❤ Gift of life insurance
- ❤ Matching gifts through your employer
- ❤ Donation of frequent flier miles

For more information about tax-deductible giving, contact us at 866-PAD-INFO or at 303-949-8337.

LEG PAIN?

Chronic leg pain is not always caused by intermittent claudication and pinpointing the cause is not an easy task. The chart below can be one tool for distinguishing between the different types of leg pain. Be sure to see your health professional with any concerns for any of these conditions. For more information on intermittent claudication, visit our web site at www.vdf.org.

Claudication versus Other Causes of Leg Pain*

Clinical Condition	Location of Pain	Association with Exercise	Relieved By
Intermittent claudication	Calf, hip, buttock or thigh	Always	Stopping
Lumbar spinal stenosis	Calf, hip, buttock or thigh	Yes, and also when standing	Flexing or moving the spine
Herniated disc	Radiates down the leg	Varies	Varies. Aspirin or anti-inflammation drugs
Osteoarthritis	Hips, knees, ankles	Varies. Not always reproducible	Varies. Aspirin or anti-inflammation drugs

*Adapted from LePerna, Lucy, "Management of Intermittent Claudication" JAOA, Volume 100, No. 10 Supplement October 2001.

VASCULAR DISEASE FOUNDATION

3333 SOUTH WADSWORTH
SUITE B-104-37
LAKEWOOD, CO 80227

Non-Profit Org.
U.S. POSTAGE
PAID
Boulder, CO
Permit No. 94

Keeping in circulation™

the official newsletter of the Vascular Disease Foundation

Newsletter designed by Concepts Unlimited

Thank You to Our Recent Contributors!

Harvey Baughman
Dr. James Campbell
The Nevada Surgical Group
Ruth Person
Dr. Fred Swartzendruber
Dr. Gary Lemmon
The Western Cardiothoracic Association, Grand Junction, Colorado

Memorial Funds

Phyllis and Roland Dumont in memory of ***Mr. or Mrs. David Millstein's mother***

Louise Ervin in memory of her husband ***James Ervin***

Steven and Melissa Powell in memory of ***James Ervin***

Thanks To

Nicolet Vascular Inc. and AstraZeneca LP who provided unrestricted educational grants for this newsletter.

Nicolet VASCULAR a subsidiary of VIASYS Healthcare

AstraZeneca