**Only One Leg?**

Unilateral leg edema has been a frequent presentation in our clinic and is a problem that usually requires an involved evaluation before making a diagnosis. Most patients before presentation to our clinic have been ruled out for a deep vein thrombosis. Occasionally, a repeat ultrasound study in our office discovers evidence of venous disease in the deep and not uncommonly, the superficial venous system. When the ultrasound exam from calf to inguinal ligament is truly negative for any venous disease we then begin to search for other causes.

Approximately, half of patients with unilateral leg edema will have information in their medical history that yields clues as to how to proceed with the investigation. Questions should be asked about a prior venous thrombosis, past trauma, orthopedic procedures or other abdominal, pelvic or lower extremity surgical procedures all of which could have changed lymphatic drainage at a particular level of the leg or in the groin or pelvis . Any prior radiation therapy to the pelvis, rectum or anus must be documented. Recurrent cellulitis or unusual leg infections could be a source of acquired chronic edema secondary to fibrosis of lymphatic channels. Once these potential issues have been ruled out, determining the presence of constitutional symptoms such as weight loss, night sweats, joint/bone aches are important.

Since these inquiries often result in a negative history, the physical exam becomes critical. Arterial pulses and or ankle/brachial index should be documented but are usually normal. In women, a pelvic exam, or in men, a rectal and prostate exam should be performed. The pattern of the edema often suggests etiology. Homogenous edema of an entire leg points to an inguinal or pelvic source. Involvement of the foot and toes suggests local lymphatic insufficiency (primary or secondary) often seen in morbid obesity and common in women.

The next aspect of investigation involves focusing on the pelvis. Basic lab work is helpful (CBC, ESR, CMP, LFT, PSA, UA), as well as hemoccult or Cologuard stool tests . However, pelvic imaging is required. While ultrasound is inexpensive and safe, a pelvic ultrasound looking for a cause of unilateral edema is often useless. CT with contrast or MR with venous phase contrast can uncover organic causes for unilateral leg edema such as gynecologic masses and sigmoid, rectal or prostate malignancies.

Finally, intravenously placed ultrasound technology has recently been used to identify occult internal or external compression of the deep iliac venous system causing obstruction to venous return and subsequent unilateral edema…even when conventional surface ultrasound is normal. While this breakthrough technology performed in a cath lab is very sensitive and specific to anatomic changes in the deep veins, we are seeing a number of “positive” intravenous ultrasound exams resulting in stent intervention but without appropriate clinical correlation nor improvement in edema. In other words, we do not yet have guidelines that will reliably predict resolution of edema when these deep vein lesions are treated with stents. This is analogous to the practice of placing intracoronary stents in patients with stable angina or into fortuitously discovered and ominous appearing coronary lesions in patients with minimal symptoms; practices which are now infrequently advised.

In summary, unilateral leg edema can be a puzzle to diagnose. However, venous thrombosis, local infection, lymphatic insufficiency, followed by pelvic malignancy are the most common diagnoses we make.

It continues to be an honor to help care for your patients.

Gary H. Dworkin, MD