Is This A Vein Problem?

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Oklahoma Osteopathic Association Convention 2019

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Relevant Disclosure

Under the Oklahoma State Medical Association CME guidelines disclosure must be made regarding relevant financial relationships with commercial interests within the last 12 months.

Parker Truong, DO

I have no relevant financial relationships or affiliations with commercial interests to disclose.

Objectives

- Differentiation of venous disease vs. arterial disease vs. lymphatic disease vs. other disease states.
- General approach to venous disease.
- Diagnosis of superficial venous disease.
- Diagnosis of deep venous disease.
- General treatments of venous disease.

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Differential Diagnosis

- Arterial disease
- Lymphatic disease
- Neuropathic disease
- Venous disease
- Others: Lipedema, myxedema, KTS, Raynaud's, medication side effects.

Arterial Disease

- Associated with distal limb ischemia.
- Perfusion abnormalities, pain, pallor, and pulselessness.
- Ulcers tend to be painful, “punched-out” appearance.
- ***Diagnosis:*** Duplex, CTA, MRA, direct angiography
  - Urgent, can lead to limb loss, gangrene.
- ***Treatment:***
  - Revascularization: angioplasty, stent, vascular surgery.
  - Medication: antiplatelet agents (aspirin, clopidogrel, prasugrel, ticagrelor, cilostazol) and statins.

Arterial Disease

- ***Symptoms:*** vary from asymptomatic, “intermittent claudication” or reproducible discomfort of a defined group of muscles with exertion that relieved with rest, rest pain, to ischemic limb.
- ***Risk factors:*** Age, smoking, diabetes, hypertension, hyperlipidemia, homocysteinemia, FH of atherosclerosis.
- ***Examination:*** diminished distal pulses, pallor, coolness, ischemic ulcers, and gangrene.

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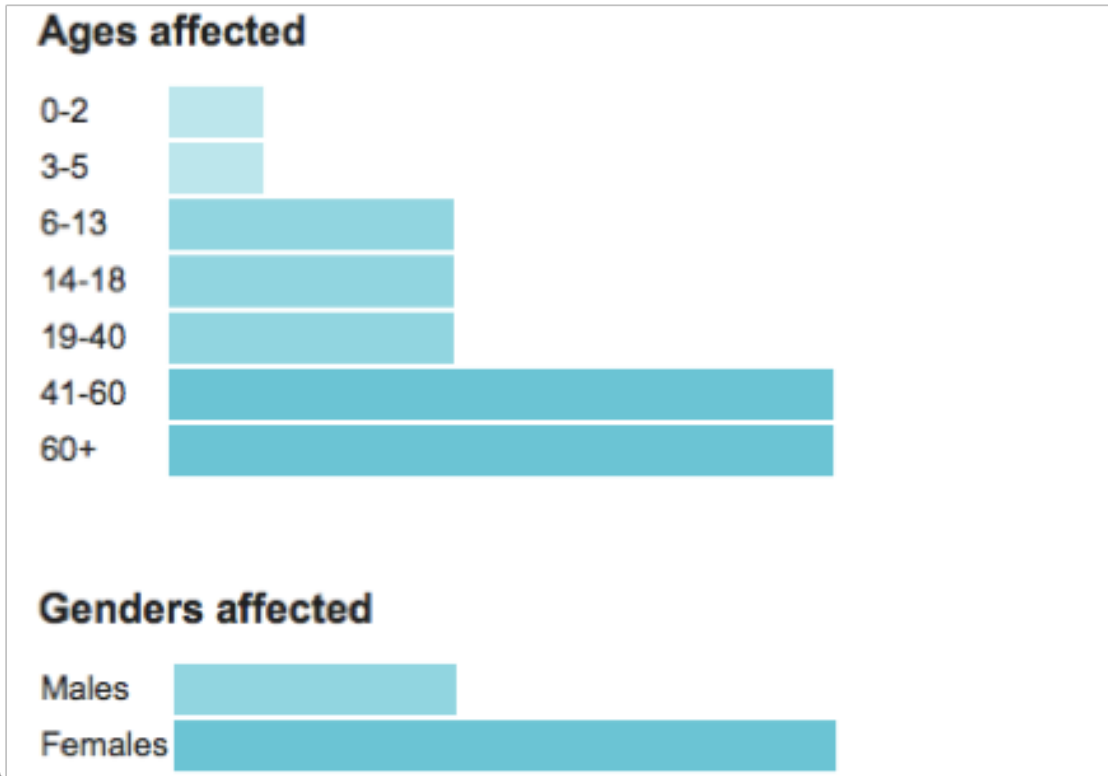
Lymphedema



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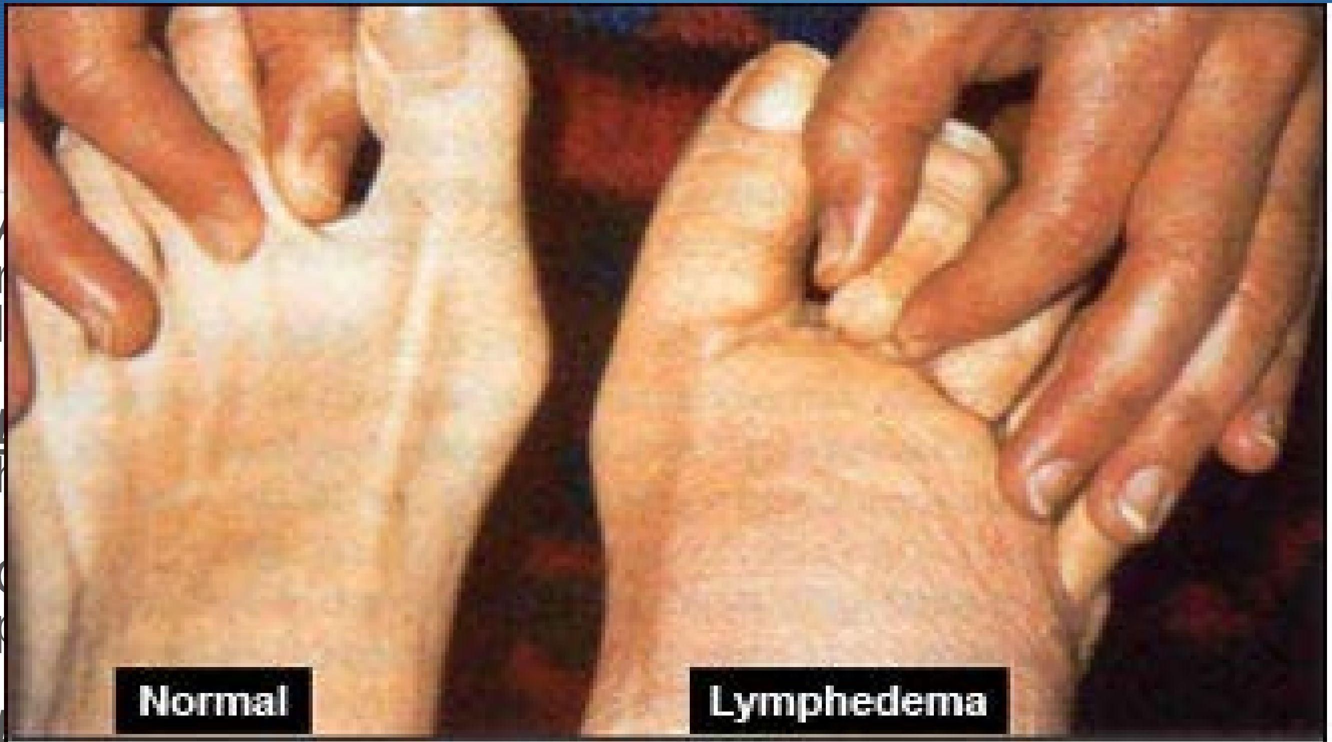
Lymphedema

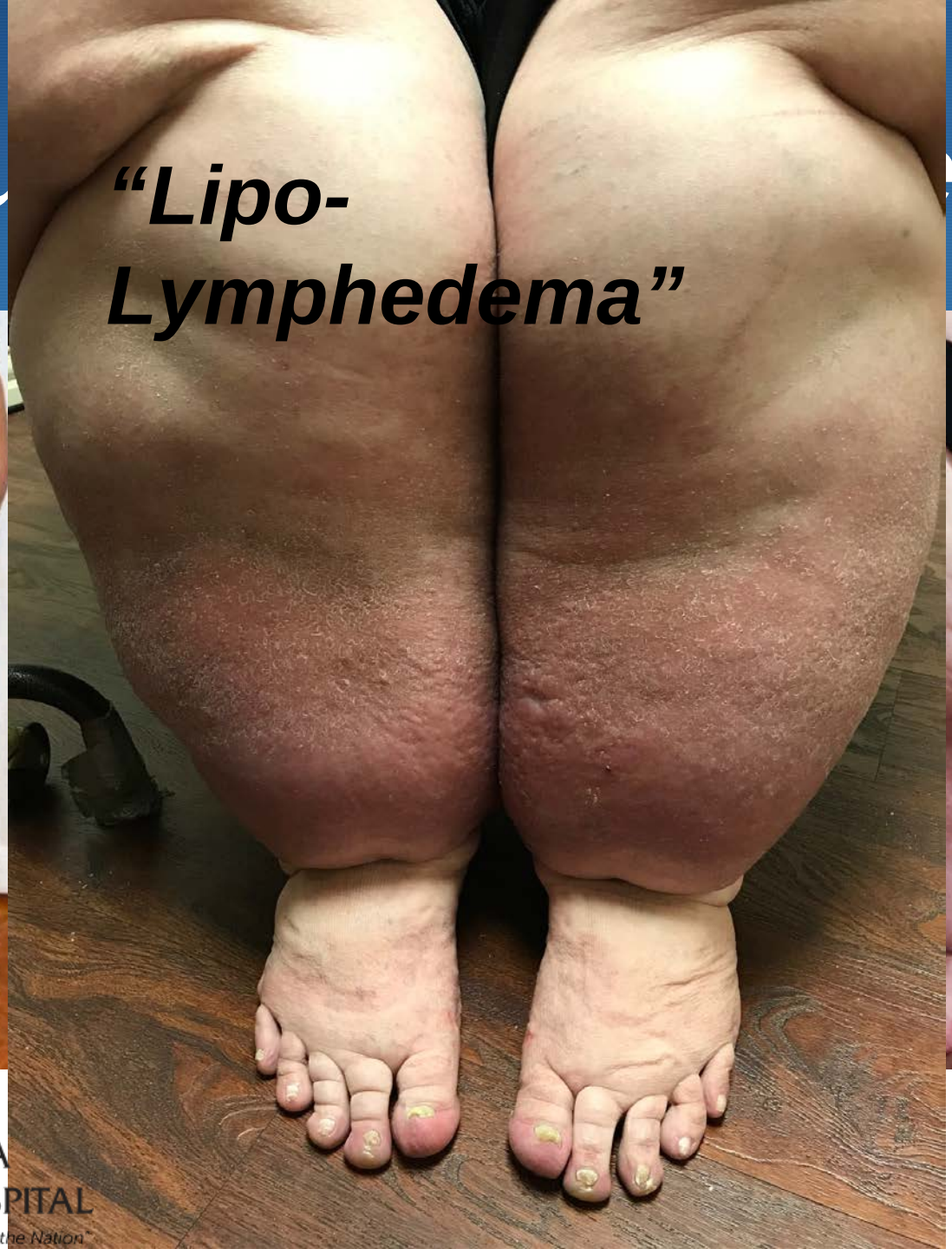


Demonstration of Stemmer's Sign Test to distinguish CVI from Lymphedema

Lipedema

- AKA “Painful Fat Syndrome”
- Disorder of fat metabolism, affects mainly women
- Onset during puberty, pregnancy, or menopause, in 4 stages
- Bilateral, symmetrical fatty tissue excess
- Mainly in hip, upper and lower legs, sparing the feet
- Pain, sensitivity, hypermobility, recurrent cellulitis
- There are treatments but no cure.
- ***Lipedema is not rare, but the diagnosis is rarely made!***

Fou ema



“Lipo-Lymphedema”

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Other causes of edema

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Common "Edemagenic" Drugs

- Actos (pioglitazone)
- Lyrica (pregabalin)
- Neurontin (gabapentin)
- Procardia (nifedipine)
- Norvasc (amlodipine)
- Prednisone
- Long list…

Other causes of edema

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Raynaud's Phenomenon

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Klippel-Trenaunay Syndrome

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Venous Disease

- ***"A world of its own"***
- Downstream disease
- Thin walled vessels – prone to compression or dilation
- Slow flow system
- Different clotting cascade
- Different disease etiologies vs. arterial or lymphatic diseases

Categories of Venous Disease

- Superficial venous disease
  - Varicose veins, venous insufficiency, venous ulcers, phlebitis
    - Symptoms – Aching, cramping, tired legs, swelling, heaviness, restless legs, itching (by order of frequency)
- Deep venous disease
  - Deep venous thrombosis, deep venous insufficiency, malformation
    - Symptoms – thrombotic vs. non-thrombotic
    - ***Venous claudication***
- Perforator venous disease
  - Connects the superficial to the deep venous systems
  - Mainly for vein specialists

Supe ease


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Superficial Venous Disease

- ***Pathophysiology***
  - Inadequate muscle pump function
  - Incompetent venous valves (reflux)
  - Venous thrombosis or obstruction leading to venous hypertension
- ***Epidemiology***
  - Telangiectasias and reticular veins: most prevalent, 50-66% population, women 56-71%, men 36-44%.
  - Varicose veins: > 3 mm, 10-30%, higher with age, W~M
  - Chronic venous insufficiency: edema, skin changes, ulceration. 6-7 million in US affected at a given time, ulcers 1-5%.

Superficial Venous Disease

- ***Risk factors:*** genetics, age, ligamentous laxity (hernia, flat feet), prolonged standing, obesity, smoking, sedentary lifestyle, trauma, thrombosis, AV shunt, estrogen, pregnancy, venous obstruction (May-Thurner Syndrome, iliac vein compression).

- **CEAP *Classification***
  - **C**linical – C0 to C6, **S**ymptomatic and **A**symptomatic
  - **E**tiologic – **C**ongenital, **P**rimary, **S**econdary, **N**o etiology
  - **A**natomic – **S**uperficial, **P**erforator, **D**eep, **N**o location identified
  - **P**athophysiologic – **R**eflux, **O**bstruction, **R** and **O**, **N**o pathophysiology identifiable.

CEAP Classification

C4b,S, Ep, As,p Pr

Painful varicosities, lipodermatosclerosis reflux in superficial and perforators by duplex.

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Superficial Venous Disease

- ***Diagnosis:*** Typical symptoms, venous reflux > 500 ms for superficial and > 1000 ms for deep veins.
- ***Treatments:***
  - Initial conservative measures
  - Endovenous ablations
  - Phlebectomy
  - Valvular reconstruction
- ***Contraindications:*** Pregnancy, acute venous thrombosis, severe PAD (ABI < 0.5), Klippel-Trenaunay Syndrome, advanced systemic disease with poor prognosis.


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Deep Venous Disease

Deep Venous Disease

- Deep venous thrombosis
- Deep venous insufficiency
- Venous obstruction
- Post Thrombotic Syndrome
- Congenital

Deep Venous Thrombosis

- ***DVT and PE:*** Comprise Venous ThromboEmbolism (VTE)
- ***Symptoms sensitivity and specificity***
  - Swelling: 97 and 33 percent
  - Pain: 86 and 19 percent
  - Warmth: 72 and 48 percent
- ***Risk factors:*** Immobility, trauma, surgery, obesity, previous VTE, malignancy, OC, pregnancy, age > 65, FH, inflam. bowel disease.

Left vs. Right vs. Bilateral DVT: May have different causes.

Clinical Validity of a Negative Venogram in Patients with Clinically Suspected Venous Thrombosis

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PETER POWERS, M.D., AND MICHAEL GENT, M.Sc.

SUMMARY **Although it is generally accepted that negative venography excludes deep vein thrombosis (DVT) in patients in whom it is clinically suspected, there is no evidence to support this conclusion. To test the correctness of withholding anticoagulant therapy in these patients, we followed 160 consecutive patients who had clinically suspected DVT and negative venograms to determine the frequency of postvenographic DVT. Anticoagulant therapy was withheld in all patients. No patient died or developed pulmonary embolism during 3 months of follow-up. Two of the 160 patients (1.3%) attended the clinic on an emergency basis during follow-up with new symptoms of DVT and in both patients, DVT was confirmed by objective testing. These events developed within 5 days of venography, which suggests that they were induced by venography. Nevertheless, the findings indicate it is safe to withhold treatment in patients with clinically suspected DVT and negative venograms.**

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Deep Venous Thrombosis

- ***Special populations:***
  - Phlegmasia cerulea dolens
  - Upper extremity DVT
  - IVC and IVC filter thrombosis
  - Pregnancy

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Test Your Knowledge

- 41 y.o. woman
- Left leg > Right leg
- Positive Stemmer’s sign
- No “Cut-Off” sign
- No visible varicose veins
- Normal distal pulses
- Heaviness, aching, calf tightness with walking.

Diagnosis:

- Lymphedema
- Left iliac vein compression.
- Greater saphenous insufficiency.

Venous vs. Arterial vs. Lymphatic Final Thoughts

- Venous vs. Arterial: Nothing alike except for vessel names.
- Arterial disease is upstream.
- Venous disease is downstream.
- Diagnosis and treatments are very different.
- Venous research and literature are not as abundant as arterial.
- There is a need for more venous research and specialists.

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Thank You!

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