Etiology and Treatment of Chronic Wounds

Joseph Bergstrom, D.O., C.W.S
American College of Osteopathic Family Physicians
October 25, 2010
San Francisco, California
Disclosure

• I have no financial interests or agreements with any manufacturer of pharmaceuticals or other medical supplies.

• I will not be discussing off label use of any pharmaceutical or medical supplies.
Objectives

• Describe the etiology and treatment of venous hypertensive ulcers
• Describe the etiology and treatment of arterial insufficiency ulcers
• Describe the etiology and treatment of diabetic ulcers
• Describe an algorithmic approach to ulcer classification and treatment
Bob
Venous Hypertension Ulcers
Venous Hypertension Ulcer

- Previously known as venous stasis ulcer
- Most common cause of leg ulcers
- Affects 1-2% of adult population
Etiology of venous ulcers

- Venous valve incompetence
- Deep vein thrombosis
- Arteriovenous fistula
- Calf muscle pump failure
Treatment of Venous Ulcers

• Good Wound Care
• Walking program
• Elevation of legs
• Compression therapy
• Medications
• Risk factor modification
Arterial Ischemic Ulcers
Etiology of Arterial Ulcers

- Peripheral artery disease (PAD)
- Pain, Pallor, Pulselessness
- Risk factors include smoking, hypertension, hyperlipidemia, obesity, diabetes mellitus
Treatment of Arterial Ulcers

- Good Wound Care
- Medical Treatment
- Revascularization
- Risk factor modification
Diabetic Ulcers
Diabetic Ulcers

• 15% to 25% lifetime risk of developing foot ulcer
• Leading cause of amputation
• Usually multifactorial, including vascular compromise, immunodeficiency, and neuropathic
Etiology of Diabetic Ulcers

- Motor neuropathy
- Sensory neuropathy
- Autonomic neuropathy
- Arterial Disease
Treatment of Diabetic foot ulcers

- Good Wound Care
- Glucose control
- Off-loading
Good Wound Care

• Assess vascular status
  – ABI
  – TBI
  – Segmental pressures
  – CTA/MRA
Ankle Brachial Index

- More than 0.9 is normal
- Posterior tibial or dorsalis pedis
- Some arteries may be noncompressible
- Unreliable in diabetics
  - Toe-Brachial Index is preferred
Bob

- ABI 0.5 of right leg
- ABI of 0.79 of left leg
Bob

- An 80% focal stenosis involving the left superficial femoral artery.
- Diffuse atherosclerotic disease involving the right superficial femoral artery. The most severe stenosis is about 50%.
- The right posterior tibial vessel is occluded. There is diffuse atherosclerotic disease involving the runoff bilaterally as described above.
- There is an approximately 70% stenosis involving the distal left popliteal about 3 cm above the trifurcation.
Bob
Good Wound Care

• Debride
  – Sharp surgical
  – Sharp selective
  – Enzymatic
Good Wound Care

• Infection Control
  – Tissue culture
  – X-ray
  – Bone Scan
  – MRI
Good Wound Care

• Edema Control
  – ABI 0.8, use multilayer compression (30-40 mm HG)
  – ABI 0.6-0.8 Light compression
  – ABI less than 0.6 no compression
Good Wound Care

• Remove pressure
  – Custom orthotics
  – Ankle-foot immobilization
  – Total contact casting
Good Wound Care

• Provide Moist Wound Environment
• Exudate Management
Good Wound Care

• Maximize metabolic status
  – Glucose control
  – Nutritional Deficiencies
  – Risk factor modification
Questions?
References

