Podiatric Medicine & The Elderly

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Mr. Pereza Case Study

- Medical Issues:
  - CAD, HTN, NIDDM, OA, Gout

- ROS:
  - Decreased activity level

- Physical Exam:
  - Diminished pedal pulses (DP and PT +1/4)
  - Absent epicritic sensorium (vibratory, sharp/dull, and light touch)
Risk Factors for Ulcerations

- Peripheral Neuropathy
- Foot deformities and callus formation
- Limited joint mobility
- Diabetes
- Poor glucose control
- Obesity
Diabetic Wound Care Factors

- Peripheral Vascular Disease
  - Large and small vessel disease

- Peripheral Neuropathy
  - Foot deformity
  - Loss of pain-protective threshold

- High blood glucose can lead to leukocyte dysfuction
  - Growth factors, cytokines, collagen synthesis, and many others factors defective in patients with diabetes
  - The constitutional symptoms of infection often suppressed in diabetes
Alarming Statistics

- 20 percent of patients with diabetes will develop foot ulceration in their lifetime
  - cost to the healthcare system is over one billion dollars per year in the United States

- 85% of LE amputations are preceded by foot ulcers.
Alarming Statistics

- Diabetes is the leading cause of non-traumatic, lower extremity amputations
- Diabetic Amputations
  - 100,000 per year
- 10-20% mortality rate within 30 days following BKA
- BKA Life expectancy: 3 yrs – 50%
  - 5 yrs – 40%
- Contra-lateral amputation: 3 yrs - 42%
  - 5 years – 56%
Diabetic Neuropathic Ulcers cost per episode

- $8,000 – Uncomplicated wound
- $45,000 – If amputation is required
  - Toe $20,000
  - Foot $40,000
  - Leg $50,000 – $100,000
Diabetic Limb Salvage

- Limb salvage requires a thorough understanding of the pathophysiology of diabetes and its pedal manifestations and an understanding of the varied treatment alternatives.

- Multidisciplinary approach significantly decreases number of lower extremity amputations
Amputation Avoidance or Prevention

- 50% of amputations are preventable
- Patient education and development of Multi-Discipline care team
  - Geriatrician/endocrinologist
  - Vascular, Infectious Disease, Orthopedics, podiatrist, Nutritionist/dietician
Principles of Wound Management

- Must recognize underlying etiology - Biopsy
- Utilize aggressive management of ulcers and infections
- Infection control (soft tissue and Bone)
  - Drain all fistulas or abscesses
  - X-ray, bone scan, MRI
  - Culture (ID consult)
- Optimizing vascularity
  - Vascular studies (Vascular consult)
- Nutritional support Assessment and Support (Nutrition consult)
IMPAIRED HEALING

- Age
- Malnutrition
- Impaired circulation
  - Ischemia
  - Vascular insuff., Tabacco
- Immunosuppressive and Radiation Therapy
  - Steroid therapy
    - Decrease initial inflammation
  - NSAI DS
    - Decrease inflammation & WBC activity
- Infection
- Concomitant conditions
  - Diabetes
- Psychological stress
NUTRITION

- Wound patients require extra nutritional support
- Deficiencies, especially protein, may result in delay healing
  - Nutrition
    - Albumin < 3.5gm/dl
  - Protein Deficiency
    - Ascorbic Acid
  - Intake of vitamins, minerals, especially zinc, should be adequate
Wound Care Specialist

- Standard of care vs. Advanced Modalities
  - Wound VAC
  - Tissue engineered products
- Fails to respond in 4 weeks, move on!
Mrs. Pereza Case Study

- **Medical Issues:**
  - NIDDM, Osteoporosis, HTN, Hx DVT

- **Sx Hx:**
  - IVC Filter

- **Physical Exam:**
  - Lower extremities – Left leg with skin changes in left leg from chronic edema.
Venous Stasis
Squamous cell carcinoma
Kaposi’s sarcoma
Pyoderma Gangrenosum
DIFFERENTIAL DIAGNOSIS FOR CHRONIC WOUNDS

- Trauma
- Burns
- Bites/stings
- Malignancy
- Conn. Tissue Disease
- Venous
- Arterial
- Pressure
- Diabetic
- Other

Biopsy! Biopsy! Biopsy!!!!!!!
Summary

• Prevention & early intervention is critical
• Neuropathy and vascular supply major players
• Patient and caregiver education is essential
Localized Foot Problems

- Pressure Lesions
  - Corns
  - Calluses
  - Ulcers

- Hammer toes & Bunions

- Heel Pain

- Ingrown toenails