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Atypical Wounds
Atypical Wounds: Session Description

• Sufficient high-quality evidence is limited for wounds that are considered atypical.
• This session will provide an overview about recognizing and diagnosing wounds considered atypical.
Background

- Prevalence of atypical wounds can be as high as 10% (lower extremity) to 20% of all wounds
- Probable many of these underdiagnosed
- Atypical wound = do not fall into typical wound pattern (venous, arterial, mixed, pressure injury, diabetic foot ulcer)
Treatment Delays

• Limited training/education of health professionals
• Lack of structured credentials for health professionals specializing in wound care
• Limited existence of best practice guidelines/protocols
Impact to Patients

- Travel to and payment to specialists
- Work absence/capacity to work
- Time and cost diagnostic testing
- Wound dressings/products/medications cost
- Quality of Life
- Social detriments/isolation
Economics of Atypical Wounds

- Exact costs unknown; included as chronic wound data
- Delayed diagnosis = delayed treatment & increased cost
- Limited clinical research
- Limited specific diagnostics
Atypical Wounds Description

• Suspect Atypical Wound:
  – Appearance of wound is unusual or different than expected for typical wound type
    • Irregular wound edges
    • Inconsistent wound tissue (some areas flat, some areas hypertrophic)
    • Wound bed with mixed or unidentifiable tissue base
  – Abnormal presentation or location
    • Particularly multiple wounds in unusual location(s)
  – Pain not consistent with presentation
  – Wound does not progress within 4-12 weeks with appropriate treatment
Background

Atypical wounds may be related to:

- Inflammation
- Infection
- Malignancy
- Chronic illness
- Metabolic
- Vasculopathies
- Genetic disease
- Miscellaneous
Diagnostics

• Thorough patient history/wound history
  – Neurovascular assessment

• Wound Assessment
  – Location
  – Precipitating factors (trauma vs. spontaneous)
  – Tissue quality
  – Peri-wound skin
  – Pain (disproportionate)
  – Skin discolorations
  – Timing of wound progression
Diagnostics

• Wound without progress in 4-12 weeks consider suspicious
  – At least 1 biopsy, 2 preferable (skin edge + wound bed)
  – Suspected infection, wide biopsy with tissue culture
Diagnostics

• Biopsy
  – Wounds with unknown causes
  – Helps narrow down/confirm diagnosis for atypical wound
    • Unusual appearing lesions
    • Inflammatory Skin Condition
    • Bullous Skin Condition
    • Suspect tumor/skin cancer
Atypical Wounds: Inflammatory

Pyoderma Gangrenosum

– Cutaneous manifestation of general inflammatory response
– Exact etiology unknown
– 50% of patients have associated disease
  • Inflammatory bowel disease
  • Inflammatory rheumatological disease
  • Neoplasia
  • Metabolic syndrome
– 70-80% PG cases occur on lower extremities
Atypical Wounds: Inflammatory

Pyoderma Gangrenosum

• Clinical Signs
  – Start as pustular/bullous lesions and become necrotic
  – Ulcer edges are unattached, violaceous, overhanging, peripheral zone erythema
  – Rapid expansion, irregular, painful

• Treatment
  – Treatment
    • Biopsy and debride (sharp or enzymatic) with caution (pathergy can exacerbate)
    • Biopsy does not confirm PG
    • Supportive wound care. No curative treatment.
      – Topical intraleisonal steroid injection, tacrolimus
      – Systemic glucocorticoids, antibiotics, immunosuppressant, biologics
      – Limited research into surgical intervention with aggressive wide excision, NPWT, HBOT (last resort)
Peri-stomal Pyoderma Gangrenosum

woundcareadvisor.com
Atypical Wounds: Inflammatory Vasculitis

– Inflammation resulting in vessel occlusion causing blood vessel wall damage (necrosis)

– Idiopathic
  • Infection
  • Malignancies
  • Medications
  • Connective tissue disorders
Atypical Wounds: Inflammatory

Vasculitis

• Clinical Signs
  – Categorized into small, medium, large vessel vasculitis disease
    • Small vessel: livedo reticularis-forked lightening appearance
    • Medium vessel: necrotic lesions/bullae, may be nodular
    • Large vessel: nodular lesions

• Treatment
  • Supportive wound care
  • Varying literature NSAIDs, steroids, immunosuppressants, antihistamines
  • Consider referral to vascular specialist, rheumatology, internal medicine dermatology for systemic treatment
Vasculitis

Large Vessel (Nodular)
Atypical Wounds: Vasculopathies

Vasculopathies
- Blood vessel disorder causing complete occlusion of the vessel
- Thrombus results in tissue hypoxia and dermal necrosis
- Does not include primary inflammation

• Categorized into 3 major groups:
  - Embolization
  - Intravascular thrombi
  - Coagulopathies
Atypical Wounds: Vasculopathies

Vasculopathies

• Clinical signs
  – Purpura, ulcers, infarcts, ”purple toe syndrome”
  – Violaceous painful, necrotic/ulcerated lesions may involve other organs (cerebrovascular, renal, visceral)

• Treat
  – Supportive wound care
  – Pain management
  – Thorough diagnostics-treat predisposing factors
Livedoid Vasculopathy
aka Atrophie Blanche

scielo.br.com
Atypical Wounds: Infectious

Variety of infections can cause atypical ulcer presentation
- Atypical bacteria
- Mycobacterial
- Fungal
- Tropical ulcer
- Necrotizing Fasciitis
  - Dx by pathology
  - Acute wound, surgical problem

• Clinical Signs
  - Variable
  - Patient history is key

• Treat
  - Culture and Swab: bacterial and mycologic
  - Supportive wound care
  - Treat systemically per results
Atypical Wounds: Metabolic

Calciphylaxis & Martorell Hypertensive Ischemic Leg Ulcer (HYTILU)

- Calcific uremic arteriolopathy
- Skin infarction and acral gangrene r/t ischemic arteriolosclerosis
- Vascular, cutaneous, subcutaneous calcification causing tissue hypoxia/necrosis
Atypical Wounds: Metabolic

Calciphylaxis & Martorell (HYTILU)

- Clinical signs
  - Dusky discoloration, violaceous plaque becomes rapidly necrotic
  - Lesions irregular edges, polycyclic, inflamed border, undermined, extremely painful, lesion groups follow distinct pattern
  - Distal skin infarction (laterodorsal/achilles tendon)
  - Proximal/Central (thighs, abdominal fatty apron/pannus, breasts, upper arms)
  - Acral gangrene (fingers, toes, penis)-Calciphylaxis only
Atypical Wounds: Metabolic

Calciphylaxis & Martorell HYTILU

• Differentiation:
  – Classic Calciphylaxis-ESRD
    • Rarely in patients without ESRD w/ morbid obesity + essential hypertension + diabetes
    • 1 year mortality with ESRD 40-50%
  – HYTILU-No ESRD
    • 100% Essential hypertension +/- Diabetes
    • 1 year mortality without ESRD 25%
Atypical Wounds: Metabolic

Calciphylaxis & Martorell HYTILU

• Treatment
  – Surgical
    • Aggressive wound management. Excision with grafting/NPWT.
    • Amputation
  – Supportive wound care
  – Antibiotics
  – Nephrology collaboration: medication management w/dialysis and diet modifications
  – Pain management
  – Thorough diagnostics-treat predisposing factors
Non-Uremic Calciphylaxis
Atypical Wounds: Malignant

Malignancies

– Malignancy in leg ulcers 2-4%

– Classified 2 categories
  
  • Primary ulcerating skin tumor (basal cell, squamous cell)
    – 60-80% cases on head/neck
  
  • Secondary ulcerating skin tumors (malignancies develop from chronic ulcerations)-Marjolin’s ulcer

  • Ulcerating skin tumors uncommon
Atypical Wounds: Malignant

Malignancies

- Clinical signs
  - Clinical presentation varies widely—often look like typical ulcerations
  - Suspicious: excessive granulation tissue (especially at edge), irregular borders, odor, increased pain and bleeding, change in appearance of chronic ulcer, delay in healing despite appropriate treatment

- Treat
  - Skin biopsy (2 site)
  - Confirmed malignancy—appropriate referral for treatment (surgery, plastics, dermatology, oncology)
Basal Cell

Primarycaredermatology.org.uk

Marjolin’s Ulcer

wikipedia.com

Basal Cell

dermatologyadvisor.com
Atypical Wounds: Miscellaneous

Artefactual Ulcers

• Deliberate and conscious production of self-inflicted lesions/ulcers

• Satisfies unconscious psychological or emotional need

• Most commonly seen during times of increased stress & underlying psychological disorders
Atypical Wounds: Miscellaneous

Artefactual Ulcers

• Clinical signs
  – Most common in females in teens to early 20’s
  – Occurs in mysterious/spontaneous ways
  – Unusual patterns, sharply demarcated edges
  – Face, upper trunk, extremities; spares anatomic areas difficult to reach

• Treat
  – Diagnosis of exclusion-histology shows non-specific lesions
  – Supportive wound care
  – Psychiatric/psychosocial treatment (psychotropic medications)
Artefactal Wound

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Thank You!

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