Foot Ulcers

Ulcerations on or around the feet may be of arterial, venous or neuropathic aetiology.

Suggested approach to foot ulcer OSCE station

Describing lesions:
- Arterial ulcer
  - “There is a well-demarcated ulcer on the tip of the right great toe”
  - “This has a diameter of 1cm and a punched-out appearance”
  - “The ulcer has a necrotic base”
  - “The surrounding skin is cool and pale, and the dorsalis pedis and posterior tibial pulses are very weak”
  - “This lesion is characteristic of an arterial ulcer”
- Venous ulcer
  - “There is a large superficial ulcer on the medial gaiter region of the right leg”
  - “This has a diameter of approximately 14cm and has an irregular border”
  - “The ulcer has an exudative, granulating base”
  - “There is associated venous eczema and lipodermatosclerosis”
  - “This lesion is characteristic of a venous ulcer”
- Neuropathic ulcer
  - “There is a well-demarcated ulcer on the dorsal aspect of the first metatarsophalangeal joint”
  - “This has a diameter of 1cm and a punched-out appearance”
  - “The ulcer has a granulating base”
  - “The surrounding skin hyperkeratotic and there is reduced sensation peripherally”
  - “This lesion is characteristic of a neuropathic ulcer”

Other aspects to examination:
- Surrounding skin (including temperature)
- Peripheral pulses and capillary refill
- Peripheral sensation

If you are asked to ask the patient questions:
- Associated pain and when this is worse
- Loss of sensation
- History of diabetes, vascular disease, varicose veins, DVT

Types

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<th>Type of ulcer</th>
<th>Commonest sites</th>
<th>History</th>
<th>Exam findings</th>
<th>Management</th>
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<td>Arterial</td>
<td>Areas of poor blood supply (e.g. tips of toes, pre-tibial area)</td>
<td>Nocturnal pain, Worse with leg elevation</td>
<td>Small deep ulcer, Well-defined, Punched out, Necrotic base, Associated: weak pulses, cool pale skin, loss of skin hair, nail dystrophy</td>
<td>Vascular reconstruction</td>
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<tr>
<td>Venous</td>
<td>Gaiter region</td>
<td>Mild pain, Worse on standing, Associated varicose veins</td>
<td>Large superficial ulcer, Irregular border, Exudative, granulating based, Sloping edges, Associated: varicosities, oedema, venous eczema, lipodermatosclerosis, haemosiderin deposition, atrophie blanche</td>
<td>Compression bandaging (after arterial insufficiency excluded be ABPI)</td>
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<tr>
<td>Neuropathic</td>
<td>Pressure points (e.g. metatarsal heads, soles, heel, toes), Often under calluses</td>
<td>Painless, Associated reduced sensation peripherally</td>
<td>Small deep ulcer, Well-defined, Punched out, Granulating base, Associated: overlying hyperkeratosis, glove and stocking sensory loss</td>
<td>Debridement, Appropriate footwear, Regular repositioning, Foot checking advice, Don’t walk bare foot</td>
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Possible investigations to determine cause
- Fasting glucose (to exclude diabetes)
- Ankle brachial pressure index (<0.8 = peripheral vascular disease)
- Duplex ultrasound (to look for peripheral vascular disease or venous incompetence)
- X-ray (to exclude osteomyelitis)
- Swabs (if signs of infection)
Arterial ulcer