How to manage leg ulcers in the elderly

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British Geriatric Society Trainees’ Meeting 2018
Objectives

Overview of venous leg ulcers

Overview of arterial leg ulcers

Management in the elderly
3.2.3 Presentations of Other Illnesses in Older Persons

Older people can present with a wide array of symptoms. Trainees should be able to define the causes, pathophysiology, clinical features, laboratory findings, treatments, prognosis and preventative measures for the following common problems and presentations in old age. This list is a suggested, but by no means exhaustive range of presentations that trainees should encounter during their training, and be able to demonstrate competence in managing them.

- Dermatological e.g. pruritus, rashes, leg ulcers and pressure sores
What are we actually treating?

1. Chronic venous insufficiency
2. Peripheral arterial disease

Diabetes
Vasculitis
Infection
Sickle cell / polycythaemia
Trauma (pressure sores)
Neoplastic
1. Chronic venous insufficiency + ulceration

Pathophysiology

Clinical assessment

Treatment

Secondary prevention
Veins of the lower limb

Superficial veins drain into deep veins (popliteal fossa, groin, perforators)

DVT = thrombus in deep veins
Phlebitis – inflammation of superficial veins (+/- thrombus)

Chronic venous insufficiency can be caused by:
Superficial incompetence
Deep obstruction / incompetence
Chronic venous insufficiency

History:

Symptoms: heaviness, aching, swelling, worse after standing

PMHx: Any chance of venous obstruction? Any significant co-morbidity that may be contributing to ankle swelling? **Obesity**

Functional status: realistic aims of treatment are vital
<table>
<thead>
<tr>
<th>CEAP classification of chronic venous disease</th>
<th>Clinical classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>C0</td>
<td>No visible or palpable signs of venous disease</td>
</tr>
<tr>
<td>C1</td>
<td>Telangiectasies or reticular veins</td>
</tr>
<tr>
<td>C2</td>
<td>Varicose veins</td>
</tr>
<tr>
<td>C3</td>
<td>Edema</td>
</tr>
<tr>
<td>C4a</td>
<td>Pigmentation or eczema</td>
</tr>
<tr>
<td>C4b</td>
<td>Lipodermatosclerosis or athrophie blanche</td>
</tr>
<tr>
<td>C5</td>
<td>Healed venous ulcer</td>
</tr>
<tr>
<td>C6</td>
<td>Active venous ulcer</td>
</tr>
</tbody>
</table>
Post-take ward round last weekend:

- AAA
- Trauma
- Carotid disease
- Oncovascular
- Lower limb reconstruction
- Thoracic outlet obstruction

SpR Cons Duplex Core Trainee
Venous ulceration – facts and figures:

- Lifetime risk of 1% in Northern Europe
- £600 million per year
- 22% of UK District Nursing time

Age strongly associated with venous leg ulcer

Prof Blackadder’s Rule of Vascular Research:
‘Anything arterial will get funded, anything related to venous leg ulceration won’t’
## Treatment: consider three options (pragmatically)

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Counter the venous hypertension</td>
<td>Counter infection</td>
<td>Counter the venous incompetence</td>
</tr>
<tr>
<td>Layered bandages</td>
<td>All VLU will have topical infection</td>
<td>Open</td>
</tr>
<tr>
<td>Stockings</td>
<td></td>
<td>Endovascular</td>
</tr>
<tr>
<td>Strapping devices</td>
<td><em>Not all need antibiotics</em></td>
<td></td>
</tr>
<tr>
<td>Debridement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dressings</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DGH: District nurse  
TH: Leg ulcer nurse  
DGH: Physicians  
TH: Physicians  
DGH: Tertiary referral  
TH: Vascular team
1. Compression (plus elevation)

Multilayer bandaging needs specialist nurse to fit!

<table>
<thead>
<tr>
<th>In theory</th>
<th>In practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce oedema</td>
<td>Painful</td>
</tr>
<tr>
<td>Absorb exudate</td>
<td>Hot</td>
</tr>
<tr>
<td>Safe if ABPI &gt;0.8</td>
<td>Impractical</td>
</tr>
<tr>
<td>Can be moderated for ABPI 0.6-0.8</td>
<td>High nursing cost</td>
</tr>
<tr>
<td></td>
<td>Requires motivated patient</td>
</tr>
</tbody>
</table>

Outcome of using silver / honey / kryptonite dressings*

*Use the cheapest non-adherent you can find
2. Drugs

When to use antibiotics:

Sepsis
Cellulitis

No evidence for anything else
3. Surgery (always worth a discussion)

Aim: Defunction the long saphenous vein and tributaries

Open: High tie and strip (GA)

Endovascular: Heat
Sclerosant
Superglue

ESCHAR trial: no effect on healing, reduces recurrence
Non-adherence

Healing is impossible without patient motivation

Threats:
- Lack of understanding
- Perceptions of healthcare professionals
- Stigma
- Pain, itching
- Healing and social isolation  Consider ‘Leg Club’ referral
Secondary prevention

Compression (Class 2 stockings, 18-24mmHg)

Exercise

Weight loss
2. Peripheral arterial disease

Pathophysiology

Clinical assessment

Treatment

Secondary prevention
Peripheral arterial disease (of the lower limb)

(Anything distal to the heart)

- Atherosclerosis
- Plaque development
- Luminal stenosis
- Ischaemia
- Infarction

- Asymptomatic
- Long-distance claudication
- Short-distance claudication
- Critical limb ischaemia
- Gangrene

- BMT
- BMT + revascularisation
- BMT + amputation + revascularisation
Peripheral arterial disease: **history**

- Standard cardiovascular history
- Focus on functional status – what are we aiming for?
- Co-morbidity – is surgery possible?
Claudication: the key symptom

Criteria:

1. Reproducible site* and distance
2. Worse walking uphill / at speed
3. Settles within 10 minutes
4. Absent at rest

*Pain is felt distal to the stenosis
(e.g. iliac disease in the buttocks, femoral artery disease in the calf)
## Peripheral arterial disease: Examination

<table>
<thead>
<tr>
<th></th>
<th>Right</th>
<th>Left</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radial</td>
<td>Palpable</td>
<td>Palpable</td>
</tr>
<tr>
<td>Brachial</td>
<td>Palpable</td>
<td>Palpable</td>
</tr>
<tr>
<td>Aorta</td>
<td>Normal</td>
<td></td>
</tr>
<tr>
<td>Femoral</td>
<td>Impalpable (Monophasic)</td>
<td>Palpable</td>
</tr>
<tr>
<td>Popliteal</td>
<td>Impalpable (Monophasic)</td>
<td>Palpable</td>
</tr>
<tr>
<td>Dorsalis pedis</td>
<td>Impalpable (Monophasic)</td>
<td>Impalpable (Monophasic)</td>
</tr>
<tr>
<td>Posterior tibial</td>
<td>Impalpable (No signal)</td>
<td>Impalpable (Monophasic)</td>
</tr>
<tr>
<td>ABPI</td>
<td>0.42</td>
<td>0.65</td>
</tr>
</tbody>
</table>
Critical limb ischaemia

Criteria:

1. Tissue loss (i.e. ulceration)
2. ABPI <0.5
3. Rest pain

Requires urgent Vascular Surgery opinion

ABPI = Ankle SBP / Brachial SBP

(Using the hand-held Doppler)

>1.1  = Possible calcification
0.8-1.1 = Normal
0.5-0.8 = Mild / mod PAD
<0.5  = Severe PAD
Arterial ulceration

Different than venous ulcers:

‘Punched out’
Bony prominences
Foot / malleoli
No skin changes in gaiter area
Investigations

Get an arterial duplex (or a CT angio if not available)

Duplex =
Ultrasound +
Colourflow Doppler

Stenosis
100 cm / second
400 cm / second

(Think: ‘thumb over hosepipe’)
Management: **urgent vascular opinion**

Our thought process (sic):

- Sepsis?
- Can we optimise anything (beware anaemia)?
- What are we aiming for?
- Is it achievable?

Best medical therapy plus:

- Open surgery (bypass, endarterectomy)
- Endovascular intervention (angioplasty / stent)
- Amputation (Toes, forefoot, below knee, above knee)
- Palliation

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Managing complications

**Diabetes** – needs MDT care
  Refer to diabetic team + vascular + leg ulcer nurse

**Mixed aetiology** – specialist care
  If leg not threatened: leg ulcer nurse
  If leg at risk: vascular surgeon

Do the basics, then refer. If in doubt, refer.
General approach for geriatricians

Hx / Ex
ABPI
Dopplers
Imaging

Arterial

Vascular opinion

Mixed

Leg ulcer nurse
Vascular opinion
Diabetic team

Venous

Vascular surgery?

Leg ulcer nurse

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Getting help

Imaging
CT angiography if duplex unavailable / MR angiography if renal failure

Assessment / treatment
DGH: General surgeons may review and refer
   Vascular satellite clinics
   Phone the SpR – transfer / assess / repatriate or admit
TH: Phone the vascular SpR
Phone the leg ulcer nurse
Getting help

Community
District nurses
Leg ulcer clinics
Leg clubs
Cardiovascular rehab services