Obesity and Lymphoedema: a clinical dilemma

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Outline of session

- The growing epidemic of obesity
- The link of obesity to lymphoedema
- Professional attitudes and challenges to care delivery
- Diagnostic imperatives and assessment challenges
- Psychosocial issues
- Towards effective care
The growing epidemic of obesity
The epidemic of obesity

Health and Social Care Information Centre (2016)

- Increase in obesity from 15% in 1993 to 26% in 2014
- Common co-morbidities
  - Cardiovascular disease
  - Hypertension
  - Type 2 diabetes
  - Sleep apnoea
  - Depression
  - Reduced mobility
The relationship of Lymphoedema and obesity

Lymphoedema threshold with BMI

Strong association with all forms of lymphoedema and obesity

BMI 50/60kg/m² - lymphoedema

Irreversible damage to lymphatics

(Greene et al 2015)
Patients with Chronic Oedema (n=9,391)

<table>
<thead>
<tr>
<th>Category</th>
<th>N</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Primary lymphoedema</td>
<td>1413</td>
<td>15%</td>
</tr>
<tr>
<td>Secondary lymphoedema</td>
<td>7904</td>
<td>84%</td>
</tr>
<tr>
<td>Undefined</td>
<td>74</td>
<td>1%</td>
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<tr>
<td>Lymphoedema only</td>
<td>7842</td>
<td>84%</td>
</tr>
<tr>
<td>Lymphoedema &amp; Wound</td>
<td>1475</td>
<td>16%</td>
</tr>
<tr>
<td>Morbidly obese</td>
<td>1609</td>
<td>18%</td>
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<tr>
<td>Obese</td>
<td>3124</td>
<td>34%</td>
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<tr>
<td>Normal weight</td>
<td>4166</td>
<td>46%</td>
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<tr>
<td>Under weight</td>
<td>189</td>
<td>2%</td>
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<tr>
<td>Cellulitis</td>
<td>3219</td>
<td>34%</td>
</tr>
<tr>
<td>Infection</td>
<td>1330</td>
<td>14%</td>
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</tbody>
</table>

- Lower Limb: 58%
- Upper Limb: 19%
- Midline: 10%
- Other: 13%
### Determinants of HRQoL (EQ5D)

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>p</th>
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<td>761</td>
<td>63.6</td>
<td>20.0</td>
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<tr>
<td>Male</td>
<td>133</td>
<td>56.5</td>
<td>22.1</td>
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<tr>
<td>Lymphoedema only</td>
<td>818</td>
<td>63.3</td>
<td>20.1</td>
<td>&lt;.001</td>
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<tr>
<td>Lymphoedema &amp; wound</td>
<td>76</td>
<td>53.9</td>
<td>23.0</td>
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<td>Morbidly obese</td>
<td>60</td>
<td>52.7</td>
<td>20.2</td>
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<tr>
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<td>280</td>
<td>61.2</td>
<td>20.1</td>
<td>&lt;.001</td>
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<tr>
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<td>64.6</td>
<td>20.2</td>
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<tr>
<td>Under weight</td>
<td>25</td>
<td>56.3</td>
<td>22.1</td>
<td></td>
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<tr>
<td>No cellulitis</td>
<td>672</td>
<td>63.9</td>
<td>20.3</td>
<td>&lt;.001</td>
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<tr>
<td>Cellulitis</td>
<td>222</td>
<td>58.2</td>
<td>20.4</td>
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Community Nursing Prevalence and Risk Factors

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
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<tbody>
<tr>
<td>Nott City</td>
<td>548</td>
<td>51.6%</td>
</tr>
<tr>
<td>Nott West</td>
<td>124</td>
<td>68.5%</td>
</tr>
<tr>
<td>Leicester City</td>
<td>768</td>
<td>59.2%</td>
</tr>
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</table>

- Clinical service ($p=0.024$)
- Age ($p=<0.001$)
- Ethnicity ($p=<0.001$)
- Obesity ($p=<0.001$)
- Heart failure/ CHD ($p=<0.001$)
- Wound ($p=<0.001$)

70% have a concurrent wound
The impact of chronic oedema on community nursing

• 3.99 per 1000 population
• 30/1000 in those aged over 85 years
• Strong association with
  ➢ Age
  ➢ Reduced mobility
  ➢ Obesity
  ➢ Long term disability
  ➢ Leg ulceration
The link of obesity to lymphoedema
Why does obesity lead to Lymphoedema

- Mechanisms are not clear
- Adipose tissue and lymphatic failure
- Reduced lymphatic transport
  - Obstruction to flow
- Inflammation and cellulitis are highest in morbid obesity
  - Further destruction of lymphatics
- Reduced function
- Gravitational effects of sitting on capillary filtration
- Inability to lose weight
Professional attitudes and challenges to care delivery
Professional attitudes to obesity

- Professional beliefs that obesity is due to laziness or lack of willpower
- Patients are time consuming physically and emotionally for professionals
- Considered “difficult“ changes professional behaviour
- Danger of blaming treatment failure on the patient
- Coping with patients emotional distress
- Evidence that CDT is more complex and results are not sustained
- Lack of guidance on how to manage
Challenges to care delivery

- Treatment often takes two therapists
- Concerns over safety in metabolically unstable patients
- Traditional approaches to CDT fail
- Issues of manual lymphatic drainage
- Inability to find appropriate compression
- Inability to discharge patients to the community
- Some services refuse to treat bariatric patients
- Requirement for multi-professional teams
- Link to bariatric services
Diagnostic imperatives and assessment challenges
Diagnostic challenges (medical issues)

Cardiac status
- Check for concurrent heart function
- BNP blood test
- If abnormal echocardiogram

Renal function
Liver Function

Functional status and ability to manage treatment

Concurrent diabetes

Cellulitis / chronic wounds
Aspects of medical assessment

• Identify the underlying cause of oedema
  • Optimise medication
  • Correct use of diuretics
  • Drugs associated with oedema
  • Recurrent cellulitis
  • Heart failure
  • Active and recurrent cancer
Assessment challenges

- Understanding patients' beliefs about the link to obesity and lymphoedema
- Psychological status
- Life style issues
- Patient support systems
- History of obesity and lymphoedema
- Experiences of CDT treatment
- Identifying patient goals for outcome
- Exploring attitudes to bariatric surgery
Therapy assessment

- Assessment of swelling
- Pitting oedema
- Tissue changes
- Circumference measures
- Lymphorrhoea
- Signs of cellulitis/use of antibiotics
- Wounds
- Distribution of swelling
- Limb shape distortion
- Neuropathy
Psychosocial issues

- Depression assessment
- Pain assessment
- Coping mechanisms
- Social support and link to treatment
- Unhealthy family/partner relationships
- Adherence / concordance to treatment
- History of relationships with professionals
Towards effective care
Managing the skin (2)

- Skin hygiene
- Control of mycosis
- Control of bioburden
- Use of emollients
- Control of hyperkeratosis
- Treatment of eczemas
- Control of Lymphorrhea
- Avoidance of maceration
- Correct choice of wound dressings
Managing the skin (3)
Assessment and management of cellulitis

- Chronic oedema associated with cellulitis
- 50% of patients have recurrent cellulitis
- Systemic symptoms often require IV antibiotics
- Often associated with mycosis and poor skin hygiene
- Antibiotics required for several weeks/prophylaxis
Planning CDT

- What is the goal of treatment?
- How realistic is full CDT for the patient?
- What service constraints influence treatment?
- How will the patient cope with compression?
- How much fluid will be moved during CDT?
- How will the patient cope at home?
- How will the outcomes be maintained?
- How will intensive treatment be followed by maintenance treatment?
- Can the patient reduce weight?
Progressive chronic oedema of the foot
Chronic oedema in the community
The challenges of adapting compression

- Inadequate pressure due to size of limb
- Compression adaption in extreme shape distortion
- Managing foot and toe swelling
- The dilemma of below vv full compression
- Difficulties in donning and doffing compression garments
- Using compression wraps
- Prevention of rebound oedema
- Patient factors that influence success
Full leg compression
Other strategies for care

- Exercise
- Elevation
- Social care
- Psychological support
- Pain management
- Bariatric referral
Its really difficult and often discouraging for the patient and professionals.
Thank You