Case study of a patient with lymphoedema of the arm secondary to multicentric Castleman’s disease, showing the cost effective use of cohesive short stretch compression bandaging, compared with using a cotton short stretch bandage

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Introduction
Castleman’s disease is a rare condition often characterised by a single solid non-cancerous tumour within the lymphatic tissue of the chest, stomach or neck, or less commonly, with multicentric or generalised disease where lymph tissue in other parts of the body are affected (www.castlemans.org). Patients with multicentric disease are more prone to symptoms such as:

- Increased number of infections
- Tiredness and weakness
- Weight loss
- Fevers and night sweats
- Nerve damage causing numbness and weakness (www.cancerbackup.org, 2007)

The risk of developing non-Hodgkins lymphoma for patients with Castleman’s disease is 20% (www.cancerbackup.org, 2007), compared with a risk of just 0.0164% in the general population (Cancer Research UK, 2007).

Case study
The patient in question had received a diagnosis of Castleman’s disease in 1994, and had been treated symptomatically with steroids and chlorambucil, an immuno-suppressant drug. He had had hypertension since 2004, poorly controlled with medication, and a history of three episodes of cellulitis in the left arm resulting in hospital admission for intravenous antibiotics. The first episode of cellulitis pre-dated the onset of left arm swelling in the spring of 2006.

Patients with lymphoedema are at increased risk of developing acute cellulitis and good skin care is essential in reducing the likelihood of infection (Lymphoedema Framework Project 2006). The patient in question was even more likely to suffer infections due to the presence of Castleman’s disease and early implementation of a skin care routine was essential.

Assessment findings showed that the patient had moderate to severe lymphoedema of 26% (42% at the forearm and 10% at the upper arm) with a shape distortion of 0.2. The digits were affected. The skin was dry and broken, particularly over the hand and the subcutis had a firm, rubbery feel.

The patient was instructed in the need for scrupulous skin hygiene and protection at the assessment visit, advised regarding suitable exercises to carry out in order to augment the muscle pump, and a course of multi layer lymphoedema bandaging (MLLB) arranged. The use of manual lymph drainage (MLD) massage was considered but rejected due to the presence of potentially active disease and the lack of truncal lymphoedema.

Method
The patient gave full and informed consent to both the treatment and to sharing his case with a wider audience.

It was decided to use a cohesive short stretch MLLB regime to create high pressures within the limb during exercise and so stimulate lymph flow (Lymphoedema Framework 2006). The bandaging would, as well as reducing the size of the swelling, also help to correct the shape distortion, soften the firm subcutaneous tissues and improve skin condition along with the use of emollients (Framework Project 2006).

The use of a cohesive bandaging system was chosen because of the increased time allowed between re-bandaging (Williams 2006a) as the patient was a busy farmer who had no desire to attend numerous appointments. A cotton short stretch system requires frequent re-application, as the bandage tends to slide and wrinkle as the limb reduces in size. This is experienced less often with cohesive bandages, designed to stay in place more effectively (see picture overleaf).

Bandaging took place twice weekly in the first week, with weekly reapplications thereafter. The limb was measured for made to measure compression hosiery after three visits when the limb had reduced to 12% excess volume (20% at forearm and 3% upper arm) with no shape distortion present. Bandaging continued weekly for a further three weeks until the hosiery arrived and could be fitted. At this time the arm and hand had reduced still further to 6% swelling (13% forearm and 2% upper arm). Since made to measure hosiery took a while to be delivered, due to the cumbersome ordering processes within the NHS, being able to treat weekly was be invaluable. However, with the advent of many compression garments now being available on GP prescription this waiting period is already falling.
Result and follow up

With the swelling now under control and an effective skin care regime having been implemented it is hoped that the incidence of cellulitis will be reduced.

During the maintenance phase of treatment care was passed back to the community team. They were supported by education sessions, which helped empower them to effectively manage the patient, knowing that they had access to the specialist service for further advice when necessary. In the six months since bandaging there have been no further episodes of cellulitis.

Conclusion

This shared care enables the community staff to develop skills in lymphoedema treatments in a supported environment, and raises the profile of the condition as a whole. It is also a more cost effective way of managing the condition, as generalised staff are less costly to the NHS. The use of cohesive bandages means that the patient may receive effective treatment through fewer treatment sessions, thus ensuring effective use of NHS resources (Williams 2006b). This case study illustrates the point that for some patients, the practitioner must stray from traditional practice in the interest of the patients’ quality of life.

Whilst it is accepted that this approach may not provide the optimal result in terms of decrease in fluid volume, with a further loss taking place after the measurements were made for the garment, the vast majority of the excess fluid was still lost in the first week of treatment. It may be better to treat the patient more frequently in the first week and then be maintained by weekly re-bandaging, but this is an area for further research.

References


Cotton Short Stretch cost of 4 weeks of treatment using Comprilan

<table>
<thead>
<tr>
<th>Quantity of bandages for 4 weeks</th>
<th>Cost</th>
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<tbody>
<tr>
<td>4 x Comprilan 6cm @ £2.47</td>
<td>£9.88</td>
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<tr>
<td>2 x Comprilan 8cm @ £2.90</td>
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<td>6 x Comprilan 10cm @ £3.12</td>
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<td>2 x 10m Actifast blue @ £6.59</td>
<td>£13.18</td>
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<tr>
<td>20 x ActiWrap @ 42p</td>
<td>£8.40</td>
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<tr>
<td>60 x Flexiban @ 45p</td>
<td>£27</td>
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</table>

Total cost
£82.98
Time: 18 bandaging sessions taking 30mins = 9 hrs

Actico Cohesive Short Stretch cost for 4 weeks bandaging

<table>
<thead>
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<th>Quantity of bandages for 4 weeks</th>
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<td>5 x Actico 6cm @ £2.52</td>
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<td>3 x Actico 8cm @ £2.90</td>
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<td>1 x ActiFast blue 10m</td>
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<td>5 x Actiwrap 6cm @ 42p</td>
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<tr>
<td>30 x Flexiban @ 45p</td>
<td>£13.50</td>
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Total Cost
£61.97
Time: 5 Bandaging sessions taking 30mins = 2 and a half hours

Percentage excess fluid volume over time

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