

CARE OF PALLIATIVE PATIENTS WITH CANCER-RELATED LYMPHOEDEMA

Anna Towers, Pamela Hodgson, Casi Shay, Vaughan Keeley

Care of the lymphoedema patient with advanced malignant disease requires specific attitudes, modified treatment approaches and a redefinition of the goals of care. This article reviews the factors that can produce oedema in advanced cancer, outlines some key medical and psychosocial issues that can impact lymphoedema treatment in the palliative population, and suggests how standard combined decongestive therapy (CDT) can be creatively adapted. Patients and families are appreciative of the continued involvement of lymphoedema therapists and such care, with the aim of preserved function and comfort, can be continued until the last days of life.

Key words

Lymphoedema
Palliative care
Cancer care
Combined decongestive therapy (CDT)

The problem of lymphoedema in palliative care has been relatively neglected (Mortimer and Badger, 2005; Pyszora et al, 2007). A few qualitative studies highlight palliative patients' experience of lymphoedema and the need for timely appropriate treatment, and greater knowledge among healthcare professionals (Frid et al, 2006; Renshaw, 2007). With expanding treatment options in recent years, an increasing population of patients are living longer with metastatic disease. Patients with lymphoedema in this

context have particular needs that will affect their care. More lymphoedema clinics are developing under the auspices of palliative care or hospice programmes, leading to a natural point of exchange between palliative medicine specialists and lymphoedema therapists.

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with advanced cancer requires an interdisciplinary approach that may include lymphoedema therapists whose role is to educate, involve and support the palliative care team, patient and family, as well as provide treatment. Therapists who choose to work with this population need to understand and incorporate palliative care principles to facilitate interdisciplinary communication and provision of optimum care. This article is primarily directed to lymphoedema therapists who wish to know more

about the application of these principles in lymphoedema care, and how standard therapy techniques can be adapted. Key concepts are outlined and practical suggestions reviewed.

Philosophy of palliative care

The approach to patients with metastatic disease may be inspired by pioneers of the hospice movement, even though palliative care today is much more than end-of-life care (Saunders, 2005). Whether the focus of care is life prolongation or preparation for dying, the original palliative or hospice approaches apply. Working with an emphasis on ensuring quality of life, symptom control, open communication and accepting the whole person as a unique individual, palliative care teams may incorporate different specialties as needed, including lymphoedema therapists (Williams, 2004; Towers, 2008). *Table 1* outlines key concepts of palliative care that apply to lymphoedema care.

The philosophy and attitudes of palliative care are highlighted in this quote from Cicely Saunders (1998):
All the work of the professional team...[is] to enable the dying person to live until he dies, at his own maximum potential, performing to the limit of his physical ability and mental capacity with control and independence whenever possible.

Anna Towers is Associate Professor, Department of Oncology, McGill University, Montreal, Canada; Pamela Hodgson and Casi Shay are Lymphoedema Therapists, McGill University Health Centre, Division of Palliative Care, Montreal, Canada; Vaughan Keeley is Consultant in Palliative Medicine, Derby Hospitals NHS Foundation Trust, Nightingale Macmillan Unit, Derby, UK

Table 1

Key concepts of palliative care that apply to lymphoedema care

- » Understanding and respect for the uniqueness of the patient
- » Inclusion of the family in providing lymphoedema care
- » Involvement of the community in providing resources and care
- » Interdisciplinary (team) work with nurse, physician, wound care or pain specialist, etc
- » Attention to detail and to what is important to the patient
- » Good communication with the patient, family and other palliative care providers
- » Ingenuity and creativity in dealing with therapeutic problems
- » Good control of pain and other symptoms
- » Maintenance of independence and function
- » Focus on meaning of symptoms, patient fears and expectations
- » Non-abandonment of the patient
- » Attention to the therapist's own emotions in caring for a patient with limited prognosis

Table 2

Possible causes of oedema in palliative patients

- » Malignant involvement or infiltration of lymphatic structures, lymphatic insufficiency
- » Venous obstruction (thrombosis, compression by tumour)
- » Decreased albumin (anorexia/cachexia of advanced cancer; ascites with repeated paracentesis)
- » Renal or hepatic failure
- » Cardiac failure
- » Dependent limb, immobility, neurological deficit
- » Effects of drug or cytotoxic chemotherapy intervention, e.g. taxotere
- » Infection

If he is recognized as the unique person he is and helped to live as part of his family and in other relationships, he can still reach out to his hopes and expectations and what has deepest meaning for him and end his life with a sense of completion.

Complexities of lymphoedema in advanced cancer

In patients with advanced cancer, oedema is often multifactorial and may increase as the disease progresses

We need to continually ask: is the primary goal life prolongation or is it comfort and quality of life?

(Todd, 2009; Cheville, 2002). Multiple aetiologies, and/or new diseases will impact the treatment plan (Williams, 2004). Subject to prognosis, additional medical investigations may be needed to clarify the cause of oedema and to determine whether compression or manual treatment is indicated. *Table 2*

shows an overview of possible causes of oedema in this population.

In addition, there are many comorbid conditions (examples are listed in *Table 3*) that may have an important impact on the lymphoedema treatment plan and that require excellent communication with other healthcare professionals. For instance, deep venous thrombosis (DVT) is common in the hypercoagulable state that exists with metastatic cancer. The advent of low molecular weight heparin has markedly simplified anticoagulation in palliative care. However, the use of compression and exercise where acute DVT has been diagnosed remains controversial and in need of further study (Shrubb and Mason, 2006). Traditionally, there was concern of dislodging the clot and causing a pulmonary embolism; however, withholding compression could lead to loss of control of the lymphoedema and potentially to lymphorrhoea. As with many controversies in palliative care clinical practice, a refocus on the goals of care for this particular and unique patient and family will help resolve such dilemmas. We need to continually ask: is the primary goal life prolongation or is it comfort and quality of life?

Consistent with the modern palliative care approach, it is worth considering whether the causes of oedema, or the contributory factors, are potentially 'reversible' (Keeley, 2000). Examples of such conditions would include:

- » Anaemia, where we might consider blood transfusion
- » Ascites, where we might consider ascitic drainage
- » Superior vena caval obstruction, which may cause bilateral arm oedema and facial swelling, together with distressing dyspnoea. We might consider urgent superior vena caval stent insertion or radiotherapy.

It is also worth considering whether any drugs which the patient is taking may be exacerbating their oedema (Keeley, 2008a). If possible,

these should be withdrawn or the dose reduced. Drugs which are commonly used in palliative care and which may contribute to oedema include: nonsteroidal inflammatory drugs (NSAIDs), sex hormones, pregabalin, bisphosphonates (especially zoledronic acid) and taxotere chemotherapy. Patients may also be taking medication for comorbid conditions which could contribute to their oedema, e.g. calcium antagonists, alpha-blockers, amantadine, risperidone. For the calcium antagonists, there is usually a dose-dependent effect and dose reduction is a possible option. Nevertheless, it is usually appropriate to review all antihypertensive medication in patients with advanced cancer (Keeley, 2008a).

Hypoalbuminaemia is common in the advanced cancer population. It is useful to know if this is present because the associated oedema is a challenge to treat. Unfortunately, albumin infusions are not likely to be helpful.

Careful assessment of patients with oedema in advanced cancer is therefore recommended. Liaison with specialist palliative care services is essential in doing this. Despite their disease complexities, palliative patients with lymphoedema can benefit from pain reduction, infection minimisation, skin protection and the psychological support that lymphoedema treatment provides (Rymal, 2003).

Cautions

Several authors argue that manual lymphatic drainage (MLD) is not contraindicated in patients with metastatic tumour but, under these circumstances, MLD should be adapted to the situation (Weissleder and Schuchhardt, 2001; Cheville, 2002; Rymal, 2003; Godette et al, 2006). Theoretically, tumour thrombi already present in lymphatic collectors could be influenced by manual treatment or compression; however, international consensus affirms the palliative benefits of oedema reduction in the presence of active tumour (Lymphology, 2009). The focus in these patients needs to be on quality of life.

Table 3

Comorbid conditions contraindicating or requiring adaptation of treatment

	MLD	Compression bandaging
Absolute contraindication	Acute deep venous thrombosis (DVT)	Acute deep venous thrombosis (DVT)
	Thrombocytopenia (platelets less than 50)	Severe neuropathic pain
	Acute congestive heart failure	Acute congestive heart failure Decreased sensation, numbness in affected limb (e.g. spinal cord compression, brain metastases) Severe peripheral vascular disease
Conditions requiring adapted technique or reduced compression and careful surveillance	Tumour infiltration of skin or subcutaneous tissues	Diabetes
		Poor arterial supply to limb (ratio of posterior tibial to brachial artery pressure 0.5–0.8)

Table 4

Major differences between standard CDT and palliative CDT

Standard CDT	Palliative CDT
Goals to reduce swelling, transition to garments, life-long maintenance, self-care	Goals to provide comfort, support, relief of symptoms, maintain function, include caregivers in care
Four elements of CDT	CDT elements may be modified or omitted
Two distinct phases of treatment	Less distinction between phases of treatment
Definitive contraindications to treatment	Contraindications now relative

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Pinell et al (2008) found that patients with active regional tumours in the axilla or groin responded well to decongestive therapy that included lymphatic drainage with a modified drainage plan. Compared to patients without such tumours, they required longer treatment, but the results

were similar. These authors concluded that manual drainage should not be excluded in the presence of persistent or recurring disease in the draining anatomic bed (Pinell et al, 2008).

Subcutaneous or dermal tumour infiltration in the lymphoedematous

Table 5

Major differences between standard and palliative bandaging

Standard bandaging	Palliative bandaging
Full standard pressure	Reduced pressure
Multilayer bandages	Fewer layers used
24-hour bandaging during intensive phase	Intensive treatment for lymphorrhoea may require frequent re-application of bandages
Foam padding used	Soft padding generally better tolerated
Transition to compression garments	May transition to lighter support bandaging, or to compression garments or continue palliative bandaging

limb may pose a challenge. Therapists will need to work closely with the physician to ensure a common goal of lymphoedema treatment and to agree on appropriate physical treatment modalities. Lymphatic drainage may be futile if performed directly over areas of subcutaneous tumour involvement.

Compression therapy may be ineffective in severe hypoalbuminaemia with generalised oedema. When comorbidities such as neuropathy or other neurologic compromises with decreased sensation or numbness are present, compression should be used with great caution, reduced pressure and regular surveillance (Crooks et al, 2007). The danger in such cases is that compression may produce skin breakdown or other tissue damage because of inadequate sensation.

Benefits of treatment

The company and intimacy that lymphoedema therapists provide may be comforting and healing to persons at the end of life. Even when prognosis is limited, there may be a sense of hope, meaning and validation engendered as a result of these therapist-patient encounters. Patients and family members who actively participate in the decongestive treatment may be relieved to have a focus of care in which they can effect positive and concrete change. Sometimes, in the presence of irreversible co-existing medical

conditions, lymphoedema treatment results are poor despite everyone's best efforts. Even in such cases, it may be a great comfort to patient and family to know that one is trying one's best (Cheville, 2002) and that we are not abandoning the patient.

Goals of care must be flexible and realistic and adapted to the patient's ever-changing physical condition.

Oncologic treatments and pharmacotherapy to control oedema

Palliative chemotherapy and radiotherapy may be very useful and necessary in controlling lymphoedema by reducing metastatic tumour burden. Patients may need to be encouraged to continue active oncologic treatment for the sake of lymphoedema control. Corticosteroids may help reduce peritumour oedema, although they may also contribute to fluid retention (Williams, 2004). Diuretics, although contraindicated in standard lymphoedema care, may be useful in some palliative contexts (Keeley, 2008a). There may be co-existent low-protein oedema that may be helped by diuretics. Analgesics should always be offered in the presence of pain. Antibiotics are necessary to treat cellulitis and consensus guidelines have been established (www.thebls.com).

Topical and oral antifungal medications may also be needed if fungal infections are present (Regnard et al, 1997; Haynes, 2008).

Adapting lymphoedema treatment for the palliative patient

'Do no harm' is the guiding principle. The burden of treatment must not exceed the benefit to the patient (Honnor, 2008). Medical conditions can evolve rapidly and oedema reduction may become a less important goal, or the patient's ability to tolerate compression may diminish. Be aware of sudden changes in oedema, pain, breathing, or endurance, and communicate regularly with the medical and nursing staff (Cheville, 2002). If in any doubt about a modality, err on the side of caution and seek more information. Be prepared to educate healthcare professionals about lymphoedema treatment so that all team members understand the benefits and cautions.

Redefining goals of care

For patients in cancer remission, the goal of lymphoedema treatment is volume reduction followed by maintenance and self-care (Table 4). For palliative patients with pre-existing lymphoedema, the challenges of undergoing oncologic treatment for malignant disease may make it difficult for them to adhere to their previous lymphoedema maintenance regimen. Equally, where lymphoedema is a new development, there may be co-existent fatigue, pain or sensorimotor neurological deficits related to cancer or its treatment, all of which will impact lymphoedema treatment. It is also necessary to recognise that many patients with advanced metastatic disease, e.g. women with metastatic bone disease from breast cancer, may have a long prognosis and be reasonably well. It is therefore appropriate in these patients to consider 'conventional' management of their lymphoedema without the need for modification.

We must first establish the cause and type of oedema, be aware of prognosis, consider the patient's

goals, preferences and personal wishes, and then agree on treatment aims (Mortimer and Badger, 2005; Lymphoedema Framework, 2006; International Society of Lymphology [ISL], 2009). In modifying or eliminating elements of CDT assessment and treatment, therapists will need to be creative (Cheville, 2002) and aware of reduced energy levels, pain, and competing priorities for end-of-life tasks, including time with family, resolving relationships and 'tidying up one's affairs', etc. Goals of care must be flexible and realistic and adapted to the patient's ever-changing physical condition. Regular communication among the interdisciplinary team, patient and family will help ensure the most appropriate treatment.

Redefining outcome measures in palliative care

In the palliative care patient, the oedema may vary from day to day and circumferential measurements, while interesting, may not be useful as a monitor of treatment success. Rather, general measures of function and ability to participate in activities of daily living that involve the affected limb(s) may be more appropriate. For example, being able to feed oneself, or to lift one's legs onto the bed by oneself. A return to more normal limb shape can be a positive indicator for patients, as can reduced pain and feelings of pressure (Pyszora et al, 2007). Patient and family satisfaction and involvement with lymphoedema care, the patient's emotional response, and verbal reports of benefits of treatment may also be recorded as indicators. Assessment tools measuring quality of life (QoL) in chronic oedema (Keeley, 2008b), or QoL measures adapted for palliative care may be useful evaluation tools (Jordhoy et al, 2007).

Adapting multilayer bandaging (palliative bandaging)

In general, due to patients' inability to tolerate compression, palliative bandaging will need to be gentler. Compression pressure may need to be reduced or more gradually increased compared to standard

treatment (Crooks et al, 2007; Williams, 2007). Be especially aware of fragile skin. Check the skin frequently and even in the best circumstances it is not wise to leave bandages on for more than 48 hours. In cases of decreased sensation or numbness, compression therapy may be contraindicated, or if used, be very closely monitored (Table 5).

Wounds and lymphorrhoea are common in end-of-life care. One may need to incorporate absorbent dressings to deal with this.

One may need to use fewer bandage layers and lighter materials, such as specially shaped tubigrip. Extra padding using cut-out foam pieces at vulnerable areas may need to be added. Consider using less cumbersome, alternative padding layers (e.g. light felt, cellona, other soft padding, etc) to facilitate better mobility within the bandage. Tailored foam packaging may help caregivers to apply the under-bandage layer more easily. In one author's clinical experience, a combination of short and long-stretch bandages when not contraindicated, may be useful in conditions such as mixed oedemas (Crooks et al, 2007).

In lower extremity lymphoedema, bandaging has the potential to increase genital or truncal oedema. Here it may be prudent to begin bandaging only the lower leg, progressing to full leg bandages. In some patients with severe lymphorrhoea, lower leg bandaging may be helpful even if it does cause some more proximal swelling. Involving patients in decision-making is therefore important.

Use of compression garments

Donning aids can be helpful to protect fragile skin. As limb size may vary from day to day in the palliative patient, fitted compression garments are often not suitable or well-tolerated and can cause dangerous constriction. The adaptable system of multilayered compression bandaging is often a better alternative than garments (Williams, 2007; Todd, 2009). Night-

time, non-elastic compression foam devices (with or without Velcro closures) may be more flexible and easier for patients or caregivers to apply. Light compression gloves, 'power sleeve' inner foam inserts (from night compression devices) can also be used as light support. In the case of gynaecological and genital oedema, light compression garments such as bicycle shorts, or purpose-made lycra shorts, will supply some compression.

Importance of touch and adapting MLD

Physical caring and touch may be very important for those with advanced cancer (Cheville, 2002). The lymphoedema therapist is in a privileged position to offer not only care for the oedema, but also humane care to the whole person. In this work a calm and consistent presence can reach deeply. As Cicely Saunders reminds us: 'The way care is given can reach the most hidden places and give space for unexpected development' (Saunders, 1996).

Following a session of MLD with a patient, one author was told by a treating physician: 'It is the first time that I have seen him smile.' Experience suggests that patients find MLD comforting, relaxing and helpful in the control of symptoms (Williams, 2007), and will often seek it out even when they are feeling very ill. However, to have MLD on any given day must remain the patient's choice.

Truncal oedema is often present with advanced cancer. The therapist needs to know where the metastases are and which nodes are involved with tumour to determine if, where, and how to perform MLD. Consult medical reports and technical scan reports when possible, or better still, the doctor directly. Modify MLD accordingly to avoid those areas. Adapting the drainage route to each individual case is important (Pinell et al, 2008).

Kinesiotaping and supportive measures

Although there is little scientific research on the effectiveness of kinesiotaping, anecdotal evidence

suggests that it may promote lymph drainage with a corresponding decrease in oedema, and be useful where tolerated and where the skin is not fragile or involved with tumour (Tsai et al, 2009).

Supportive taping techniques and use of pillows and splints may relieve neuropathic and muscular pain, particularly where there is a co-existing brachial plexopathy (Crooks et al, 2007)

Skin care, lymphorrhoea and wound management

Skin care is important in palliative care to prevent pressure ulcers, skin breakdown and infection (Williams, 2007; Regnard et al, 1997). Good hydration is imperative especially when limbs are bandaged. There could be major fluid shifts when bandaging limbs with massive oedema. Diuresis and related physiological changes need to be taken into consideration.

Lymphorrhoea, often seen in palliative care, should be treated quickly to reduce risk of infection and ulceration (Mortimer and Badger, 2005). Leaking limbs are distressing to patients, and sadly this condition is often ignored or underestimated by healthcare professionals (Renshaw, 2007). The general treatment principle is to continue compression bandaging in these cases. Lymphorrhoea usually responds well to continuous compression bandaging, changed frequently. Bandages may need to be changed more than once a day and non-adherent dressing materials such as paraffin-impregnated gauze may be required at the leaking area (Renshaw, 2007). In the authors' experience, community lymphoedema therapists in some regions may not have access to all types of dressing materials and may need to involve hospital or community nurses.

Vigilance to prevent pressure wounds is also important. If ulcers do appear in pressure areas, gel or colloid dressings may be needed to keep the area moist and to reduce pain. If ulcers are malignant or if infection is present,

team members experienced in wound management in palliative care should be consulted. Odour caused by anaerobic bacteria may be treated with metronidazole orally or topically. Bleeding malignant ulcers may respond to radiotherapy (Regnard et al, 1997; Haynes, 2008).

Adapting remedial exercises

In developing an exercise protocol, be aware of pain, bone metastases and the risk of pathologic fracture, neurological limitations, dyspnoea, and increasing weakness (Cheville, 2002). Encourage the patient to move within their limitations. Gentle range of motion exercises, both assisted and active, can be beneficial.

At times, therapists will have to acknowledge their reactions and emotions and allow time for grief, and strong feelings... Showing vulnerability is allowed.

Family members or caregivers can be guided in helping the patient to exercise gently. In the authors' experience, family members welcome the involvement at a time where they may feel helpless. The physical contact can be a natural way to express caring. Encourage the patient in functional activities such as brushing hair, walking to the bathroom, etc. The gentle exercise will not only help their lymphoedema, but will help maintain their functional state and may help their mood. Use adaptive devices and support as necessary to prevent pain or injury (Crooks et al, 2007).

Pneumatic compression

Due to the fact that there is often truncal oedema, pneumatic compression has a limited role in palliative care. It can also be argued that because of the degree of oedema, many palliative care patients require continuous compression rather than the intermittent compression offered by machines. Patients who were already managing with pneumatic compression machines before cancer

recurrence may find it helpful to continue. Best practice guidelines suggest a maximum pressure of 30mmHg (Lymphoedema Framework, 2006).

Subcutaneous controlled drainage

An old technique of interstitial fluid drainage using large-bore needles has recently been refined and described in case series reports (Clein and Pugachev, 2004). One technique, used if standard CDT has failed, involves inserting No 19 butterfly needles into the subcutaneous space and connecting them via tubing to a dependent drainage container, such as a biliary drain bag (Clein, 2009). Bandages can be applied after the procedure. Clein suggests that this needle drainage technique be used only with massive oedema, and as a palliative procedure.

One of the main concerns about this technique is the risk of introducing infection. In Clein's case series of 15 patients, none developed an infection, but their median survival was only two weeks. The authors therefore suggest that careful selection of patients is required if considering this technique.

Self-care

The philosophy of non-abandonment of the patient has great implications for the therapist, in terms of having to be flexible, organising one's time, and dealing with one's own emotional stress. Attention to the healthcare giver's own emotions is an important part of the philosophy of palliative care. Therapists often form close bonds with palliative patients and their families. At times, therapists will have to acknowledge their reactions and emotions and allow time for grief, and strong feelings. It may help to discuss the situation with other team members. Showing vulnerability is allowed. Peer support for healthcare providers is strongly encouraged and is essential in palliative care.

Case examples

Case one: Lower limb lymphoedema

Mr M, a 72-year-old male with prostate cancer metastatic to bone,

liver and to retroperitoneal nodes, was referred to a private physiotherapy clinic for CDT. Assessment showed mixed oedema with some lymphoedema. His legs were heavy and swollen, making walking both difficult and fatiguing. He was still working and wanted to be able to walk throughout the day at work. He agreed to try CDT and completed the intensive phase (MLD and bandaging) with good medical results. A lot of fluid was moved through frequent urination and swelling reduced. He was delighted to be more mobile and functional again. Mr M enjoyed several more productive months. As his disease progressed and oedema increased, he could no longer attend the clinic or tolerate short-stretch bandages. Long-stretch bandages provided support and comfort and oedema reduction. Fortunately, he was able to afford treatment at home. Mr M continued to be appreciative of MLD which relaxed him and which he received until the end. As he wished, he died at home and able to function until the very last days.

Case two: Upper limb lymphoedema

Mrs D, a 49-year-old female who had been treated for breast cancer, was assessed and treated for lymphoedema in a private clinic. For several years, CDT compression garments and exercise had helped Mrs D to maintain arm function, manage her lymphoedema, and function independently in her home. Then recurrent disease in nodes of the affected axilla and breast, brachial plexopathy and a substantial increase in arm volume, and malignant lymphoedema with lesions on the chest complicated the picture. At this point the treatment plan changed to modified MLD to the upper extremity, with emphasis on deep breathing and a drainage pattern to the ipsilateral inguinal lymph nodes, gentle passive and active assisted range of motion, as well as light bandaging using soft padding as tolerated. On the days she was unable to attend treatment, her husband and family members continued with light bandaging and use of a night garment when possible.

As her condition worsened, she was admitted to hospital, where the family, therapist and nursing staff continued some or all of the elements of the treatment plan on a daily basis. As her malignant disease progressed and despite everyone's best efforts, the lymphoedema increased slowly, but without skin breakdown or infection and with a minimum of pain in the affected area. The patient received comfort and symptom relief with the last treatment two days before her death.

Case three: Upper limb lymphoedema

Mrs C was 68 years old and lived alone. She was a person who preferred to avoid medical interventions. She had undergone a right lumpectomy for breast cancer 11 years earlier and had refused all other treatment. She was admitted to the hospital palliative care unit with difficult breathing due to left malignant plural effusion. She underwent pleurodesis. She accepted only radiotherapy for symptom control and refused further diagnostic tests, so it was unclear how widespread the metastases were. Lymphoedema of the right arm and hand had developed some months earlier and were controlled with a compression sleeve and CDT treatment from a community therapist, who did not attend her subsequently in the hospital. Swelling, pain, discomfort and heaviness worsened after only a few days without treatment. A hospital therapist then provided bandaging daily for three weeks and afterwards thrice-weekly until the end, with passive range of motion of hand and upper extremity joints and lymphatic drainage to the hand. Although the therapist tried to involve nursing staff in lymphoedema care for the weekends, they were not comfortable with bandaging and Mrs C felt more at ease with the therapist. Mrs C, who was often brusque, was usually co-operative and thankful with the lymph therapist whom she called her 'angel'.

Models of care and future research

Unfortunately, we must acknowledge

Key points

- ▶▶ Lymphoedema care in advanced cancer can contribute to increasing the quality of life of the patient.
- ▶▶ Oedema in this context is often multifactorial, and aetiology needs to be ascertained in order to determine the appropriate treatment.
- ▶▶ The lymphoedema therapist needs to work closely with the palliative team.
- ▶▶ CDT elements may need to be modified, using lower compression and avoiding MLD directly over areas of subcutaneous tumour.
- ▶▶ Fitted compression garments are often not suitable or well-tolerated in the palliative context because limb size may vary from day to day.

that in many situations therapists are not permitted to continue providing lymphoedema care to their own patients once that patient has been admitted to an institution, or providing care is rendered difficult. This is a problem that needs to be addressed in healthcare structures.

Different models of care exist within and across nations, and the role of lymphoedema therapists in palliative care may vary. To promote the best care for palliative patients with lymphoedema, it is important to discuss and disseminate information about different models of care.

In many localities, reimbursement is an issue. Cancer policy may require that lymphoedema services be an integral part of hospital-based cancer care. If not, advocating for such a policy regionally or nationally can be a good

strategy to eventually obtain resources for lymphoedema services for the cancer population. Ideally, patients with metastatic disease should be referred in a timely manner for treatment and control of lymphoedema before complications develop. Integration of lymphoedema therapy within cancer care and palliative programmes will help to ensure this.

Palliative lymphoedema patients are often cared for at home. Community clinics and hospice programmes require access to specially trained lymphoedema therapists who can formulate treatment plans and train other healthcare providers and family members. Community lymphoedema therapists who care for these patients will need to develop a relationship with other healthcare professionals. They may wish to seek opportunities to observe palliative care teams and how they work.

More research on patient response to treatment in different palliative situations is essential. For example, we need research on the use of compression bandaging in the setting of deep venous thrombosis and advanced cancer. We need to develop and use outcome measures that go beyond volume measurements and that include functional and psychological domains. We need to apply qualitative and quantitative measures of effectiveness of care, quality of life and patient/family satisfaction that are adapted to the palliative population.

Conclusion

This article has discussed the key concepts of palliative care and how therapists may wish to adapt standard therapy when working with lymphoedema patients who have recurrent cancer or advanced metastatic disease. Lymphoedema in this context can often be controlled with early referral, creative strategies and close interdisciplinary work. Modified decongestive therapies, if helpful and acceptable to the patient and family, may be continued into the last days of life. JL

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