The causes and treatment of wet weeping legs

Wet, weeping legs have a big impact on the quality of patients' lives and the health service. Full leg and medical assessments, as well as liaison with specialist teams are important to identifying the cause of the oedema, which will determine the correct, effective treatment. This article considers the use of superabsorbent dressings, compression bandages, skin care and barrier creams to improve care.

"The impact of wet, swollen legs on patients is significant, with quality of life significantly affected."

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Wet and oedematous legs affect a large number of people. Chronic lower limb oedema affects over 100,000 people in the UK; a similar prevalence to leg ulceration (Moffatt et al, 2003). The impact of wet, swollen legs on patients is significant, with quality of life significantly affected by the symptoms caused by increased exudate (*Box 1*). These symptoms can be embarrassing to the patient, leading to social isolation (Beldon, 2009).

The National Health Service (NHS) is also affected by wet and oedematous legs, with an increased nursing time and dressing changes, as well as the cost of hospital admission, often for treatment of associated cellulitis. The onset of an ageing population in the UK will see an increase in patients with these types of conditions, and the cost of wound care is only going to increase (Ousey, 2013).

How do wet and oedematous legs develop?

The body naturally allows fluid to leak from the blood vessels into the surrounding tissue as a means of transportation from blood to cells. Most of the fluid (about 90%) is reabsorbed back into the capillaries, while the remainder is absorbed by the lymphatic system (World Union of Wound Healing Societies [WUWHS], 2007).

There is a fine balance between the fluid leaking from the capillaries and the fluid being reabsorbed back into the capillaries and lymphatic system. When there is a change in the volume of fluid leaking or being reabsorbed, an imbalance occurs, and this may eventually lead to swollen, oedematous legs that can start to leak outside the body. Identifying the cause of this change is important to resolving the oedematous, wet legs.

Pressure on nursing time and staffing means it is often tempting for clinicians to wrap patients' legs to reduce frequency of visits. However, this delays completion of a full assessment, which is the first step to managing the condition. Mopping up exudate with dressings is a waste of resources if the cause is not firstly identified and controlled.

Acute exudate is beneficial to wound healing, as the mediators needed in the inflammation stage are contained within the fluid (WUWHS, 2007). However, chronic, extreme wetness can damage the wound bed and

surrounding skin, causing further breakdown. It also creates a harbour for bacterial growth, increasing the risk of infection cellulitis (Beldon, 2009).

Assessment

Identifying and controlling the source of the exudate and oedema is key to improving patient care. To gain a full understanding of the cause of the oedema, it is important to complete a holistic medical and leg ulcer assessment, including a Doppler ultrasound scan.

It can be difficult to perform a Doppler on people with wet, swollen legs, and it may be painful for the patient. In these cases, toe pressures and pulse oximetry may be useful tools to use instead of ankle pressure. Clinicians should be trained for using these assessment tools to ensure correct use and to obtain valid results (Whayman, 2014).

Causes of chronic oedema and wet legs

Cardiac oedema

When the heart fails to cope with the workload of pumping blood around the body, a back-pressure builds up in the venous system, causing oedema. It is important to liaise with the patient's GP to review medical history and medication(s). There may also be the need for a review by the patient's cardiac team. Medical intervention may include diuretic therapy. The patient's physical ability to get to the bathroom will need to be considered and supportive interventions put in place (Moffatt et al, 2007).

Oedema may affect just the lower legs or could extend to the thigh or higher, depending on its severity. Patients generally complain of breathlessness on exertion or when lying down, and the condition always affects both legs. If the oedema and exudate are allowed to persist, erythema, blistering of the skin and ulceration can occur (Moffatt et al, 2007). Advice should be sought from tissue viability or leg ulcer specialist teams to determine compression treatment; high compression should not be used as this could overload the patient with fluid, potentially with fatal consequences.

Once the cardiac oedema is stable, and in agreement with the GP or cardiac team, a full leg ulcer assessment, including Doppler, should be carried out and light or reduced compression introduced. Often this is launched at a very low level of pressure and only on one leg, with close monitoring of the patient for any side-effects. If the patient can cope with this treatment, compression levels can be slowly increased and both legs incorporated.

Renal failure oedema

A reduction in kidney function will lead to reduced urinary output and an increased amount of fluid in the circulation system. This leads to increased pressure in the venous system, causing oedema. Therefore, renal failure oedema may present in similarly to cardiac oedema, and treatment is similar.

Liaison with the GP and specialist teams is important to review the patient and medication. Advice should be sought from the tissue viability or leg ulcer specialist teams, as high compression levels should not be used. Once the patient is stable, and in agreement with the GP and specialist teams, a full leg ulcer assessment and Doppler can be completed, and light or reduced compression initiated, again with close monitoring and starting the compression gradually.

Venous oedema

Venous oedema is caused by a reduction in venous return due to venous disease and a full leg ulcer assessment and Doppler must be completed. Cardiac and renal failure oedema must be assessed and ruled out. With venous disease, the oedema tends to go down at night and develop during the day. It can affect one or both legs. If it extends into the thigh, this is often an indication of lymphoedema.

Box 1. Symptoms and common problems.

Symptoms of wet legs include:
- Discomfort
- Malodour
- Reduced mobility
- Soiling to clothing and shoes
- Soiling of bedding and chairs
- Increased pain.

Other problems associated with wet legs include:
- Increased risk of infection
- Loss of protein
- Safety issues due to wet floors.

Compression is recommended in the management of venous disease. If the patient is already in compression, then the compression system must be checked to ensure it is appropriate for the ankle size. If ankle circumference is >25cm, then modification of compression is required to ensure therapeutic pressures are achieved. If using bandage kits, ensure the correct size is selected.

It is also necessary to check that the patient is going to bed at night and elevating feet to heart level when

Figure 1. ***Skin changes due to lymphoedema. Photo courtesy of Medetec.***

Figure 2. A situation that is often found in the community when wet legs have not been managed correctly. Photo courtesy of Medetec.

Figure 3. The presence of exudate can result in maceration of the periwound skin. Photo courtesy of Medetec.

Figure 4. Foam dressing unable to contain a large amount of exudate, causing maceration to the periwound skin. Photo courtesy of Medetec.

sitting. Gentle exercise and ankle movements are important to keep the calf muscle pump working which will help to improve venous return.

Lymphoedema

Failure of the lymphatic system causes non-pitting oedema that does not resolve when the patient goes to bed. This oedema affects one or both legs and can often extend to the thigh and sometimes higher. Prolonged lymphoedema creates skin changes, such as deep skin folds and crevices, papillomatosis (cobblestone appearance) and hyperkeratosis (*Figure 1*). Referral to a lymphoedema specialist is, therefore, important to ensure correct management with bandages, exercise and manual lymphatic drainage.

Dependent oedema

Dependent oedema is caused by the patient's sitting with legs down. Good communication is important to understand why the patient fails to elevate their leg. Some reasons for sleeping in a chair instead of bed could be due to ischaemic pain from arterial disease, concerns about exudate's soiling the bed, uncontrolled backache, difficulty transferring, wheelchair-bound status, loss of leg movement or force of habit (Moffatt et al, 2007).

It is important to involve the multidisciplinary team, including GP, vascular team, physiotherapist, occupational therapist and pain team, depending on the cause. Diuretics are ineffective in the management of dependent oedema (Moffatt et al, 2007).

Effect on patients

The symptoms of wet legs can decrease patients' quality of life. Living with dressings that are unsightly, malodorous, soiled, large and heavy can induce feelings of disgust and low self-esteem in certain patients (Jones et al, 2008). Individuals often find leaving the house difficult, which may be due to having no shoes or clothes that fit (*Figure 2*), or reduced mobility due to size of dressings. Increased pain and discomfort can lead to low emotions in the patient, which can become a major factor in patients' lives (Moffatt et al, 2007).

Excess fluid can have a detrimental impact on the condition of the surrounding skin, causing excoriation and increasing wound size due to tissue breakdown. *Figure 3* shows the effect of exudate causing maceration of the periwound skin. Failure to control this excess exudate negatively affects patients' lives and concordance levels (European Wound Management Association, 2008). Improved patient concordance comes with an increased involvement in their own care. It is important to appreciate and address the patient's concerns, which may be very different from the clinician's priorities.

For clinicians, the main aim is often to heal or reduce the wound size; however, reducing the amount of exudate, odour and pain is often more important to the patient. Addressing patients' concerns will improve concordance because they see their aims being met, and their confidence in the clinician increases (Wounds UK, 2013). Education also helps to improve concordance because patients start to understand why the treatment is needed and see the benefits that concordance brings. Information leaflets can be a useful tool to educate patients and family members so that all the individuals involved in the treatment process are informed of why the treatment is being given and how it can help.

Effective management

The temptation to pad the patient's legs in order to reduce visits must be avoided. Chronic exudate has a destructive effect on the wound tissue and surrounding skin. There is also the possibility that extra padding can distort the shape of the limb, causing the oedema to worsen, and affecting compression levels if the patient is in compression (Moffatt et al, 2007).

Effective management must start with a full leg ulcer and medical assessment. Consideration must be

given to dressings once this assessment is completed. For the patient to be comfortable and safe, the dressing needs to absorb and retain exudate, so that fluid does not leak back onto the skin (Hampton, 2013).

Superabsorbent dressings contain polyacryate polymers and have the ability to swell many times greater than their original size, holding the fluid within the dressing (Ousey et al, 2013). These dressings have a greater absorption capacity than foam dressings and, therefore, should be used on highly wet wounds and legs. *Figure 4* shows the inability of a foam dressing to contain a large amount of exudate and, therefore, causing maceration to the periwound skin.

Deciding which dressing should be used can be difficult because there are so many options available. This is another area where specialist teams can support nursing staff. Clinicians should consider which superabsorbent dressings are on the local formulary as these options will have been reviewed locally.

Appropriate use of these dressings can reduce frequent dressing changes and help the patient to feel confident that are wearing a dressing that will hold the fluid and not leak (Jones and Barraud, 2013). However, extended wear time is not always the most important issue and consideration must be given to whether the patient finds the heavy dressings uncomfortable.

Consideration must also be given to quality of life and the fact that a patient would want the dressing changed more frequently for hygiene reasons (Ousey et al, 2013). Superabsorbent dressings provide a safe and cost-effective tool to combat the negative effects of exudate on the skin and wound, and also improve the patient's quality of life (Jones, 2013).

For patients who are unable to have compression bandages applied, superabsorbent dressings can reduce exudate leakage and enable patients to resume their normal daily activities.

However, once the clinician has carried out a full assessment and determined the cause of the oedema, then compression therapy should be used if the patient is able to tolerate it because this will help to correct the underlying cause and re-establish normal physiological fluid balance.

Skin care

The skin provides a semi-permeable barrier to protect the body, and chronic exudate can break this down. Immersing a patient's leg in a bucket of water provides a better cleaning of the wound and will reduce the exudate present on the skin.

The use of barrier films or creams on periwound skin to prevent further breakdown should be considered. These help to protect the skin from the effects of the exudate.

Conclusion

When wet, weeping legs have developed, a thorough leg ulcer and medical assessment is integral in order to determine the underlying causes of the oedema.

Treatment includes superabsorbent dressings, compression bandages (where appropriate), good skin care and barrier creams. Good communication skills are important to promoting concordance, involving patients in their care, and providing support and education to aid in their treatment. We

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