Managing exudate in malignant fungating wounds and solving problems for patients

A review of the literature on the management of malignant fungating wounds revealed insufficient studies from which to develop guidelines for best practice.

AUTHOR Theresa Selby, BSc, RN, is tissue viability clinical nurse specialist, North Middlesex University Hospital NHS Trust.


Excessive exudate is a common characteristic of malignant fungating wounds. This article explores the problems this causes for patients and looks at how to manage them. It critically reviews five key studies that used qualitative and quantitative methods to analyse data on the performance of various dressings as a means of managing exudate from malignant fungating wounds.

Most of the literature about managing patients with malignant fungating wounds (Fig 1) is based on case studies and experiential accounts of patients’ experiences. There are few research studies on which to base evidence-based practice. These accounts, may, however, offer some valuable practical guidance in managing problems associated with malignant fungating wounds.

DEFINING FUNGATING WOUNDS

The term ‘fungating’ describes a malignant disease process that involves ulceration and growth of the wound (Bycroft, 1994). Fungating wounds occur when cancerous cells invade the skin and the surrounding blood and lymph vessels (Grocott, 1999). These can arise from a primary tumour of the skin, an underlying tumour that infiltrates skin structures (Fig 2, p16) or from metastatic spread from a distant tumour (Naylor, 2002).

Fungating wounds commonly occur in patients with breast cancer, although they may also originate from cancers of the head, neck, kidney, lung, ovary, colon and the penile area (Young, 1997). Malignant fungating wounds occur at the sites of the primary cancer and the affected groin and axilla lymph nodes (Young, 1999).

The incidence of fungating wounds is unknown (Grocott, 2000), but approximately 5–10% of patients with metastatic cancer develop a fungating wound (Dowsett, 2002; Haisfeld-Wolfe and Rund, 1997).

Malignant cells can be controlled with treatments such as chemotherapy, radiotherapy, surgery and hormone and neutron therapy (Grocott, 1999; Collier, 1997). Malignant fungating wounds seldom heal because malignant cells grow continuously (McManus, 2007). Eventually, these wounds are managed by palliative symptom control (Grocott, 1999). A two-fold approach to managing these wounds was highlighted by Grocott (1999):

- Palliative treatment of symptoms and wound-care products;
- Taking a multidisciplinary approach.

Some of the symptoms associated with these wounds are listed in Box 1.

BOX 1. SYMPTOMS ASSOCIATED WITH MALIGNANT FUNGATING WOUNDS

- Excessive exudate
- Malodour
- Bleeding
- Pain

Symptom severity will vary among patients

Sources: Wilson (2005); Manning (1998); Young (1997)

MANAGING EXUDATE

The presence of exudate is described as a normal part of the inflammatory process of wound healing (Thomas, 1997). It is excessive levels that can have detrimental effects, such as excoriation and maceration of the peri-wound skin, which may lead to an increase in wound size (Cameron, 2004; Cutting and White, 2002; Collier, 2000). Possible causes of increased exudate are infection, wound debridement, oedema and the use of inappropriate wound dressings (Cutting and White, 2002). Fungating wounds produce excessive volumes of exudate, particularly in the advanced stages or if the tumour is large.

Various types of dressings were advocated for managing exudating wounds. Hydrogels, hydrocolloids and absorbent vapour-permeable adhesive dressings were recommended for lightly-exudating wounds (Collier, 2000). These dressings maintain a moist wound bed and contain the wound exudate.

For moderate to highly exudating wounds, dressings that absorb and contain exudate, promote moisture evaporation and have
vertical ‘wicking’ properties were advocated (Pudner, 1998; Young, 1997). These included alginates (Hess, 2000); hydrofibres (Williams, 1999) and foams.

Vuolo (2004) advocated that hydrofibres should be the initial choice of dressing in heavily exudating wounds because of their higher absorbency compared with alginates. A wound manager system or stoma bags have been suggested for wounds with fistulas or sinuses (Pudner, 1998; Haisfield-Wolfe and Rund, 1997).

Some wound management treatments, such as hydrogels and maggot larvae, may increase wound exudate (Vuolo, 2004). Using extra padding, bandages and clothing could compromise absorption of exudates by the dressing (Anderson, 2002). This author also suggested that using ointments or creams in the wound bed or on wound edges might impede exudate absorption.

**EVIDENCE FOR DRESSING SELECTION**

Grocott (2000; 1998; 1997) conducted longitudinal multiple-case studies that used qualitative and quantitative methods to analyse data on the performance of various dressings in managing exudate in patients with malignant fungating wounds.

Grocott (1997) evaluated foam dressings in 17 patients with fungating wounds. Qualitative data was derived from participant observations and in-depth patient interviews. Three indicators were measured: dressing fit; the volume of exudate leakage; and the number of dressing changes. Most patients in the study presented with large, irregular fungating wounds in areas where movement is involved. They experienced problems including soiling of clothing and bedding from dressing leakage, as well as dressing re-padding, re-taping and readjustments because of problems with dressing fit.

The findings revealed that only one out of the 17 participants achieved the desired goal in all three areas being measured. This patient had had electron therapy for the fungating wound. Patients with fungating malignant wounds can benefit from adjuvant treatments (Grocott, 1999; Collier, 1997). For example, patient electron therapy flattens fungating nodules making it easier to apply foam dressing.

Generalising the findings is limited by the sample size. However, the study demonstrated that the fitting of standard size dressings poses problems for patients with malignant fungating wounds as exudate leakage may result, needing frequent dressing changes.

In 1998 Grocott conducted a study of 45 participants with malignant fungating wounds and reported on the progress of three of the patients. Qualitative data was derived from discussions with the patients, their partners and clinicians, as well as from patient observations. Quantitative data was obtained using the TELER tool. The same indicators were used: dressing fit; the volume of exudate leakage; and the number of dressing changes.

Two types of dressings were used to manage exudate. Novogel, an occlusive gel sheet was used for absorption. Its properties include the control of fungus, bacteria and odour and a high absorbency. Film dressings with various high moisture vapour transmission rates were also included.

It is unclear in the study which dressings were used with individual patients. The first patient experienced problems with all three indicators, particularly around the axilla, and the adhesive tapes on raw skin caused bleeding. Grocott (1998) suggested that bunching or overlapping of the primary dressings impeded the venting of moisture into the secondary dressings. These problems identify the importance of good dressing application and removal. Further research by Jones and Milton (2000) also suggested the application of tapes and padding over primary dressings may prevent moisture transmission. The patient had been taking antibiotics for the treatment of malodour, but it was not clear whether the presence of infection resulted in more exudate.

The second patient in Grocott’s (1998) study noted a significant improvement with the use of Novogel and scored highly on all the indicators. In due course, scores fluctuated, indicating problems with exudate leakage, dressing fit and a need for dressing changes. The patient and nurses attributed these problems to poor fixation, lack of continuity in nursing care and unfamiliarity with new dressings. Again, issues around dressing application are seen. The dressing absorbency appeared to be satisfactory.

For the third patient, the scores were consistently positive, apart from leakage. During the study period, the patient was treated for infection on two occasions and also had chemotherapy. These treatments significantly improved healing. Grocott (1999; 1998) concluded that for effective management the dressing must:

- Be comfortable;
- Have a high absorption rate;
- Be capable of venting excess exudate.

This means that exudate may be managed...
Practice review

with single or double-layered less bulky dressings. The effectiveness of a dressing, according to Grocott (1999), is determined by: the quality of the products; the consistency and composition of the exudate; dressing fit; and a combination of exudate uptake, absorbency and venting.

Grocott (1999) advocated the following two dressing systems:

- A two-layer permeable system consisting of a non-adherent perforated layer and a permeable layer;
- A two-layer system with controlled permeability, comprising a highly absorbent layer and a retention layer with a high moisture vapour transmission rate of >10,000g/m²/24 hours.

A semi-permeable foam dressing had these properties (Grocott, 1999).

The most extensive research into the performance of various dressings was a third study by Grocott (2000), which evaluated seven dressing systems for eight of the 45 participants of the second study. This was done in collaboration with a company manufacturing wound dressings, which provided new dressings in various sizes for the study.

Dressing fit to contain exudate, intensity of irritation, duration of irritation and peri-wound maceration/erythema were measured. The dressing regimens ranged from one layer to three-layer systems, and included non-adherent, alginate, foam, hydrocolloid and hydrogel dressings as primary contact layers, as well as secondary layers.

The main findings highlighted problems associated with exudate leakage:

- Soiling of clothes because of poor dressing fit;
- The need for padding or dressing changes before the next scheduled dressing change;
- Maceration of the peri-wound.

Grocott (2000) suggested that alginate dressings caused bleeding and were inadequate in controlling exudate, an opinion disputed by Hess (2000). A dressing regimen was advocated that used a two-layer system that comprised a rapidly absorbing primary dressing with a secondary dressing that absorbed excess fluid and had a high moisture vapour transmission rate.

In vitro experiments carried out as part of the study demonstrated that correct fitting and fixture of a dressing was key. However, this proved more challenging to achieve in practice. The quasi-experimental design of the study meant that the researcher had little control over certain aspects of the research (Parahoo, 2006). Grocott (2000) indicated there were problems with data collection.

It is not clear from the paper whether the findings relate only to the new, larger dressings or include findings from the standard-size dressings used initially. The focus was on dressing performance and not the wounds, although the nature of the wound should determine the type of dressing used.

The study does not describe how the dressings were selected, who applied/removed them, where the study took place and whether the people involved in the care understood the principles of wound assessment and management. It is difficult to find out whether reported problems such as trauma, moisture loss, lack of conformity, poor absorption and maceration could have been avoided or better managed if staff involved in applying the dressings had had appropriate knowledge about wounds and dressings. Nevertheless, Grocott’s (2000) study offered the most information on the properties of dressings suitable for managing exudate in malignant fungating wounds.

Naylor (2001) presented a case study on the effectiveness of a hydropolymer foam dressing, Tielle Plus, on a patient with a malignant fungating wound. While the dressing was intact the patient did not experience leakage or malodour, had dressing changes every three days and found it comfortable and discreet underneath clothes. It was cost-effective, but only available in three sizes. However, a single case study has no statistical value and the findings cannot be generalised.

Two case studies by Burns and Stephens...
(2003) showed the effectiveness of Novogel in managing exudate in malignant fungating wounds. In their first case study, the participant did not experience problems with excess exudate and malodour within 24 hours of using the dressing and needed a dressing change only every 48–72 hours. In the second case study, the participant experienced less exudate and odour and required fewer dressing changes (every 2–3 days) over a two-week period. In both studies, initial dressings of topical antibiotic gels, alginites and foams proved to be inadequate in effectively managing medium to high levels of exudate. The initial use of hormone therapy for the patient in the first case study did not control symptoms. It appears that the properties of Novogel and the dressing fixture may have contributed to the successful management of exudate and malodour. However, although these findings demonstrate the effectiveness of the dressing, they cannot be generalised.

OTHER STUDIES

Using a drainage pouch is recommended for dressings that require changing more than 2–3 times a day (Wilson, 2005; Bryant, 2000). Petroleum-impregnated dressings are not recommended as they accelerate anaerobic bacterial growth and prevent aeration (Goodman et al., 1993). These authors noted that occlusion was difficult to achieve using hydrocolloids because of the uneven wound edges of malignant fungating wounds.

THE THEORY OF DRY WOUND HEALING

Groccott (2000) and McManus (2007) have challenged Winter’s (1962) theory of moist wound healing in patients with malignant fungating wounds, as the focus of that research was based on acute, superficial wounds, not chronic, heavily exuding ones. However, where wound healing is unachievable and patients have a short prognosis, Winter and Scales’ (1963) theory of dry wound healing may be an option (McManus, 2007). By drying out the wound surface, patients may experience reduced distress and discomfort associated with highly exuding wounds.

CONCLUSION

It is clear that patients with malignant fungating wounds need a thorough assessment that includes psychological aspects. Setting agreed aims and objectives with patients and carers is also important.

There is a problem in managing symptoms associated with these wounds as one regimen is not suitable for everybody. For instance, a regimen for managing exudate effectively may not necessarily solve problems of malodour, infection and maceration. Furthermore, prescribing topical antimicrobials for an infected fungating wound will not always eradicate the infection or reduce exudate.

Single or combination adjuvant treatments are often used alongside wound dressings, but not all patients benefit from these. The nature and appearance of these wounds pose challenges around dressing fixture and fitting. This raises the need for dressings that are larger than standard, are highly absorbent and have a high moisture vapour transmission rate.

Poor exudate management has a physiological and psychological impact on patients. As malignant fungating wounds often do not heal, the focus appears to be on maintaining a stable wound, thus improving quality of life.

Unfortunately there are insufficient research studies on which to base practice. However, the evidence evaluated in this article does offer valuable guidance on managing patients with malignant fungating wounds.

REFERENCES