

TNP therapy in the community: findings of a national survey

In 2005 a national survey was conducted to assess the use of vacuum assisted closure across primary and secondary care settings. It was found that although tissue viability nurses are primarily responsible for the management of complex wounds in both primary and secondary care, in some cases, concerns were raised regarding responsibility for follow up and review, particularly when patients were discharged from hospital. In many cases the TVN was the key link between care settings. One of the major barriers for TVNs was the ease of access to VAC in community settings.

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KEY WORDS

Topical negative pressure
Community access
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Tissue viability nurses

Fast, effective wound healing is an important factor in reducing morbidity and mortality in patients with large chronic wounds, as well as reducing the financial and staffing implications of long-term wound care in the hospital or community setting (Ballard and Baxter, 2000). The National Institute for Health and Clinical Excellence (NICE, 2001) suggests that the number of difficult-to-heal surgical wounds may increase in the future and that increased knowledge and expertise should be available across both primary and secondary care (Penn and Rayment, 2004).

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The use of topical negative pressure therapy (TNP) or vacuum assisted closure (VAC) therapy (KCI Medical Ltd, Oxford) has been shown to be an effective way to accelerate healing of various wounds (Venturi et al, 2005). TNP has become a recognised and efficacious technique in the management of challenging contaminated, difficult acute and chronic wounds (Argenta and Morykwas, 1997; Moues et al, 2004). However, the availability of such treatments for those in primary or secondary care settings is sporadic and not equitable across the country.

TNP has become a recognised and efficacious technique in the management of challenging contaminated, difficult acute and chronic wounds (Argenta and Morykwas, 1997; Moues et al, 2004).

This article reports on project work undertaken by a group of tissue viability experts who investigated the extent of TNP usage in primary and secondary care settings in the UK. The project explored specific issues relating to clinical access to the therapy, the responsibility of the clinician in training, procurement/rental processes, use of protocols and guidelines. The study was

carried out when VAC was the only TNP therapy available so the term VAC will be used throughout this article.

Vacuum assisted closure

VAC is designed to promote the formation of granulation tissue for faster healing of acute and chronic wounds (Fisher and Brady, 2003) and is an innovation that is being given increased attention (Penn and Rayment, 2004). It is generally well tolerated with few contraindications or complications, and is fast becoming a mainstay of current wound care practice (Venturi et al, 2005).

VAC is based on simple technology, which uses controlled negative pressure to evacuate wound fluid, stimulate granulation tissue and decrease bacterial colonisation of the wound (Schimp et al, 2004). It exerts a mechanical force on the tissues and contracts the wound edges centripetally (Voinchet and Magalon, 1996). Studies have demonstrated that this technique optimises blood flow, decreases local tissue oedema, removes excess fluid from the wound bed and improves local tissue oxygenation by increasing peripheral blood flow. At the same time, these physiological changes facilitate the removal of bacteria from the wound (Voinchet and Magalon, 1996; Morton, 2004; Venturi et al, 2005). As oedema fluid is removed from the extravascular space, it reduces

microcirculatory embarrassment and therefore improves blood supply during this phase of inflammation (Morton, 2004; Venturi et al, 2005).

The VAC therapy technique entails placing an open-cell foam dressing into the wound and applying a controlled sub-atmospheric pressure (Argenta and Morykwas, 1997). The optimal sub-atmospheric pressure for wound healing with VAC is -125 mmHg (Argenta and Morykwas, 1997; Venturi et al, 2005).

Background

VAC has been widely used in secondary care settings for more than 10 years, and is considered particularly effective in wounds where exudate management is a problem, or when preparing the wound bed for skin grafting. Wild et al (2003) suggested that for certain indications, such as complex abdominal and sternal wounds, no equivalent alternatives are available and therefore it should be considered poor practice if the treatment is not available for all patients who need it.

The joint experience of the project group was that access to the therapy in primary care has been difficult for a variety of reasons. It was this perceived inequity of access that prompted further investigation and resulted in the development of the survey.

Cost-benefit analysis has shown that VAC is a cost-effective treatment (Wild et al, 2003). There is no valid reason why it is not available to all, and the current 'postcode lottery' should be eradicated.

VAC therapy survey

In 2005 a national survey was conducted with the objective being to illustrate the use of VAC across primary and secondary care settings. The specific criteria used to identify access to, the use and management of patients with VAC is shown in *Table 1*.

Methods

The survey was developed by the project group and distributed to a random sample of tissue viability

specialists and wound care advisors working in primary and secondary care settings in England, Wales and Scotland. Practitioners were asked to reflect on their usage of VAC therapy at the time of completing the survey. The questionnaires were returned and anonymised before collation using an Excel spreadsheet. The group interpreted the results.

Results

In total, 371 questionnaires were distributed of which 104 were returned (28% return rate). Twenty-four community TVNs, 63 hospital TVNs and 17 TVNs with joint hospital and community responsibility completed and returned the questionnaires. According to the findings of the survey the following results give a brief overview of how VAC therapy is used in the UK.

The responses indicated that VAC had been used in secondary care for an average of six years: one hospital had been using the therapy for more than 10 years compared with three hospitals, that had been using it for less than one year. The number currently in use at the time of the survey varied from two units to 14 units per trust. Fifty-six units were hired from the company (KCI Medical Ltd) and 32 were owned by trusts.

Of the 24 primary care trusts that responded, VAC had been in use for 2-3 years in eight PCTs compared with 5-6 years in one. The highest number of units in use at the time of the survey across PCTs was eight and the lowest was one. The therapy units were hired in 17 PCTs and they were owned by seven of them.

Availability and access to VAC therapy

As anticipated, the highest use of VAC was in secondary care (67%) followed by joint nursing responsibility for primary and secondary care (18%) and then primary care (15%). Most therapy units were obtained through rental agreements between individual trusts and KCI Medical Ltd. Very few therapy units were owned. Whereas some trusts had systems in place to use VAC, few units were loaned between care environments. Most consumables,

Table 1

Issues covered by the 2005 VAC therapy survey

- » Availability and access to VAC
- » Responsibility for initiating, reviewing and discontinuing VAC therapy
- » Duration of treatment with VAC
- » Types of wounds treated with VAC in hospital and the community
- » The number of patients having access to VAC therapy when required
- » Availability of protocols or guidelines for VAC
- » Delayed discharge from hospital due to unavailability of VAC
- » Responsibility for community funding

such as dressings and canisters, were ordered directly from KCI and very few were obtained through supplies departments, loan stores or pharmacies.

Lack of funding by the PCT was cited to be the greatest barrier to using VAC. However, lack of education and competence among nursing staff appeared to be an issue in relation to patient access to the therapy.

Responsibility for initiating, reviewing and discontinuing VAC

VAC is mainly initiated (85.6%), reviewed (72%) and discontinued (79%) by tissue viability nurse specialists. There was evidence that hospital consultants were involved in decision-making in both primary (8%) and secondary (26%) care settings. Only one GP was involved in decisions regarding VAC.

Duration of treatment with VAC therapy

There was lack of agreement between respondents regarding whether the length of patient stay in hospital was reduced when VAC therapy was still indicated but discontinued. The results showed that across the trusts that responded it was discontinued in 30 patients in order to facilitate their discharge.

Types of wounds treated with VAC in hospital and the community

The types of wound treated in both primary and secondary care were

as follows: pressure ulcers; dehisced wounds; orthopaedic wounds; and diabetic foot ulcers. It was found that patients with leg ulcers were rarely treated with VAC therapy in primary and secondary care despite being a clinical indication for its use.

The number of patients having access to VAC therapy when required

Respondents cited a total of 64 cases where lack of PCT and hospital funding were the reasons for patients not receiving VAC therapy on discharge. The lack of protocols for obtaining the therapy was an issue in 28 of the 104 responses.

Availability of protocols or guidelines for VAC therapy

Protocols (systematic trustwide guidance for access, review and discontinuation) were reported to be in place in 68% of hospitals, 8.3% of PCTs and 41% of those with joint responsibility. Of those who responded, 79% said that clinical guidelines for applying VAC therapy were in place.

Delayed discharge from hospital due to unavailability of VAC

According to 16 hospital respondents, on average 15 patients per month had delayed discharges due to unavailability of VAC therapy; among PCT respondents (n=2) the average was two delayed patient discharges per month, and among those with joint responsibilities (n=2) there was an average of four delayed patient discharges.

Responsibility for community funding

The main reason given for not using VAC in the community was that the PCT would not fund it (64) or the hospital would not fund it (24) and for a range of other reasons (38). In five PCTs the lack of a framework for obtaining the therapy was a major barrier to access and seven respondents cited 'other' but did not elaborate.

Discussion

As expected, TVNs are primarily responsible for the management of complex wounds in both primary and secondary care. In some cases, however, concerns were raised regarding

responsibility for follow up and review particularly when patients were discharged from hospital. In many cases the TVN was the key link between care settings. One of the major barriers for the TVN is ease of access to VAC therapy.

At the time of this survey neither the VAC therapy unit nor consumables were available on drug tariff. This changed on 1st June 2006 when the small, medium and large Granufoam dressing kits and the VAC Freedom canister were included. This may have had a significant impact upon access to, and availability of, prescribing within primary care. VAC therapy is integrated into 'discharge from hospital' schemes in some parts of the country, but this is rare.

By far the most common way of accessing VAC therapy was found to be through rental arrangements. The advantages of renting therapy units are that they are immediately available for delivery, they are replaced should a fault occur and are cleaned and well maintained. A lack of collaboration was identified between primary and secondary care with few VAC units being shared between care environments.

Armstrong et al (2004) and Kaplan (2004) showed a reduction in the length of hospital stay when using VAC therapy for patients with diabetic foot ulcers and open abdomens. Despite the potential to reduce hospital inpatient stays there was a reluctance to fund VAC therapy by secondary care trusts on patient discharge. However, according to the survey there were variations between clinicians, with some stating that length of hospital stay was not affected by the lack of funding whereas others stated that it did lengthen hospital stays for some patients. Hospital costs per 24 hours are on average £263 per patient (Netten and Curtis, 2004), depending on the treatment that is being provided. Discharging a patient early releases the bed space for another patient who requires treatment. Therefore, the actual

Key Points

- ▶▶ Vacuum assisted closure therapy has been shown to be an effective way to accelerate healing in a variety of wounds.
- ▶▶ Access to VAC therapy has been difficult to provide in primary care.
- ▶▶ A cost benefit analysis has shown that VAC therapy is a cost-effective treatment.
- ▶▶ The main reason identified for not using VAC therapy in the community was that the PCT would not provide funding.
- ▶▶ Clear variations were found in access, funding, continuity and responsibility for VAC therapy across the country.

discharge itself will not save money, but if more patients can be treated, long-term costs are reduced and government targets can more easily be met.

If VAC therapy is to be made available to all, then it is vital that protocols and application guides are produced for all areas that use the therapy. Almost half of hospitals surveyed had protocols, which were for both primary and secondary care. This demonstrates efforts to streamline the service for the benefit of patients and staff. A well thought out plan of education would ensure both hospital nurses and community nurses will develop skills and competence in using VAC therapy.

Conclusion

This survey identified clear variations in access, funding, continuity and responsibility for VAC across the country. Wide variations were found between primary and secondary care in the use of VAC as well as between individual clinicians' approaches.

The main issue regarding availability within primary care appeared to be related to funding with education and training also noted as important factors. However, as VAC therapy is shown to be clinically effective, cost-effectiveness follows.

In order to support the advancement of VAC therapy within primary care, the project group have also undertaken a systematic review of the literature to identify areas where further research is required. This article is part 2 of the project aiming to promote equity for access to VAC therapy for patients with acute and chronic wounds across the UK. **WUK**

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