

[EP348] EVALUATION OF AN ABSORBENT BORDERED FOAM DRESSING CONTAINING A POLYESTER MESH IMPREGNATED WITH TECHNOLOGY LIPIDO COLLOID (TLC) WITHIN AN INTEGRATED

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Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim: The purpose of the evaluation was to assess patient comfort, healing rates and economic benefits of a bordered polyurethane foam pad with a highly absorbent layer, with a healing matrix of hydrocolloid and lipophilic particles. Exudate management, peri-wound skin management, atraumatic removal, pain free dressing changes and versatility of use across a wide range of wound types throughout the various stages of healing were included in the evaluation parameters.

Method: The tissue viability team supported by the honorary tissue viability nurse developed a bespoke evaluation tool. This was piloted across the organization prior to full implementation. The evaluation parameters included: patient details, wound duration, aetiology and photography. Full informed patient consent was gained prior to recruitment into the evaluation. Data was entered into Microsoft excel designed to support the data entry. Patients were recruited across a number of care settings within the organizations, including care homes, wound clinics, patients' own homes, outpatients and acute hospital wards.

Results / Discussion: 20 patients were recruited to participate in the evaluation. Key evaluation parameters included:

- Classification, number of wounds present
- Their location and duration
- Location of the patient when treated
- What dressings were being used and what combinations
- Frequency of dressing change and reasons why

Full evaluation findings will be described in the poster.

Conclusion: The evaluation of the foam dressing* was found to be effective across various acute and chronic wounds when used as either a primary or secondary dressing. Exudate levels were contained, no strikethrough or maceration was seen. The atraumatic, pain free dressing removal was reported by patients who also found the product comfortable.

*Technology Lipido Colloid (TLC)

[EP349] EVALUATION OF A NEW ADHESIVE FOAM DRESSING WITH TLC AND SILICONE BORDER IN THE LOCAL MANAGEMENT OF VARIOUS WOUNDS

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E-poster Session: Dressings 3

Aim: To achieve optimal skin healing, a dressing should promote the wound healing process based on the “moist wound healing” concept, manage wound exudate to limit the risk of maceration, and be atraumatic and pain-free at removal for the patient.

The new adhesive foam dressing with TLC and silicone border meets these criteria. This foam dressing is combined with a soft-adherent lipido-Colloid layer (TLC – Technology Lipido-Colloid) in contact with the wound and an adhesive silicone backing on the peri-wound skin. The therapeutic benefit of this TLC technology has been proven in numerous clinical studies in acute and chronic wounds, while the adhesive silicone border has shown to be pain-free at removal, with an excellent peri-wound skin tolerance.

Method: A clinical evaluation was performed to document the performance and tolerance of this new dressing, in the management of acute and chronic wounds.

Results / Discussion: Thirty four wounds of various etiologies were treated with the new adhesive foam dressing with TLC and silicone border, with a 6 week follow-up. Clinicians documented wound evolution with planimetrics and photographic records at inclusion, intermediary and final visit.

We report here the evolution of three different wounds, treated with the dressing: a skin abrasion, a venous leg ulcer and a second degree burn.

Conclusion: Although it is not comparative, this evaluation carried out on a small number of patients show very promising results justifying the use of this new dressing by clinicians.

[EP350] USE OF HYDROCONDUCTIVE DEBRIDEMENT DRESSING TECHNOLOGY FOR THE MANAGEMENT OF COMPLEX WOUNDS

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Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim: Complex wounds require restoration of balance of several factors, including exudate, protease and bioburden levels. Whilst a moist wound environment is advocated, prolonged exposure to excess chronic wound exudate can delay healing and increase the risk of infection and further damage^{1,2} - achieving the correct moisture balance is key.

Evaluations were performed to assess the effectiveness of Hydroconductive Debridement Dressings* (HDD) at managing exudate and removing the barriers to healing in a series of complex wounds.

Method: Five patients with heavily exuding, sloughy wounds with a history of delayed healing were evaluated weekly for up to 4 weeks. HDD were cut as required and applied in 2-3 layers with suitable secondary dressings to secure. Dressing changes occurred as exudate levels indicated.

Results / Discussion: All wounds had peri-wound maceration and/or excoriation which resolved quickly after commencing HDD, as exudate levels were managed effectively. Wound odour quickly reduced, improving patient self-esteem. All wounds exhibited increased granulation tissue to the visible wound beds and reduction in size.

HDD proved effective at managing highly exuding complex wounds, indicated by the visible improvement in exudate levels and peri-ulcer skin condition, which could also be attributed to the ability of HDD to sequester microbes and harmful proteases³. Effective debridement and promotion of granulation tissue were also conducive to healing, demonstrated by reduction in wound size.

Conclusion: Using HDD on complex wounds effectively managed and reduced high exudate levels detrimental to wound healing, providing an optimal environment to restore the equilibrium required for wound progression.

*Drawtex Hydroconductive Debridement Dressings, Martindale Pharma, UK

[EP351] POSSIBILITY OF PRODUCT* INDUCED ACCELERATION OF THE WOUND HEALING PROCESS

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¹*Biotec Betaglucans As*

Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim: In 2014 a new medical device with an ancillary medicinal substance that specifically targets the wound healing process itself, was approved in Europe. The product has been tested in preclinical studies with promising results and its effect in a clinical setting is presented.

Method: Healthcare personnel (HCP) in Norway tested the product in their regular clinical practice. They were asked to use the product according to its intended use and report their experiences through an online questionnaire. The survey included feedback on wound diagnosis, chronicity, debridement regime, infection, patient experience and effectiveness of the product.

Results / Discussion: More than 50 patient cases were reported in the survey. The majority of the wounds were hard to heal, chronic wound conditions including diabetic ulcers, leg ulcers and pressure ulcers, most of which were treated within a home nurse setting. Patient experiences showed a high degree of comfort when using the product and pain levels were low both at dressing changes and during treatment. The HCPs found the product to be easy to apply and the HCP satisfaction was extremely high with about 70-80% of the feedback rating the accelerated healing efficacy of the product as high. The product was equally effective against the different wound diagnosis reported in the survey.

Conclusion: A new product with the ability to speed up the wound healing process improved wound closure in a range of hard to heal ulcers with high HCP and patient satisfaction.

*Woulgan Biogel

[EP352] USE OF A FOAM DRESSING WITH SOFT SILICONE IN GERMAN WOUND CARE CENTRES

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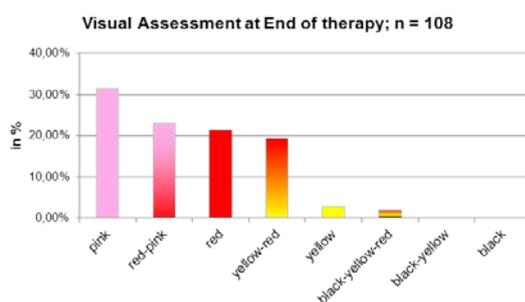
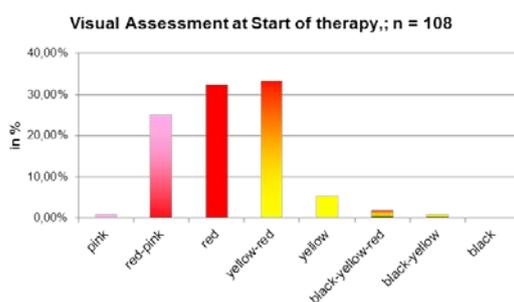
E-poster Session: Dressings 3

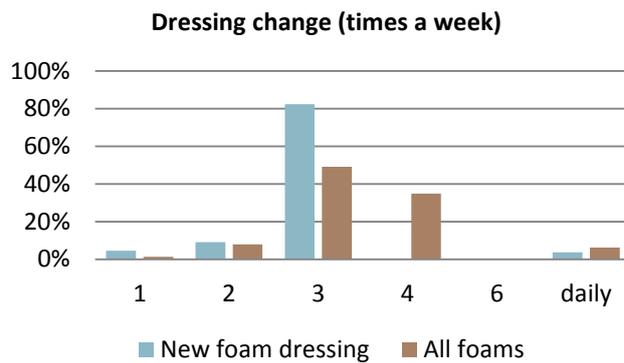
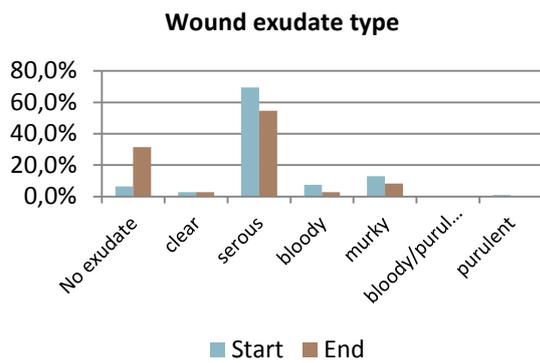
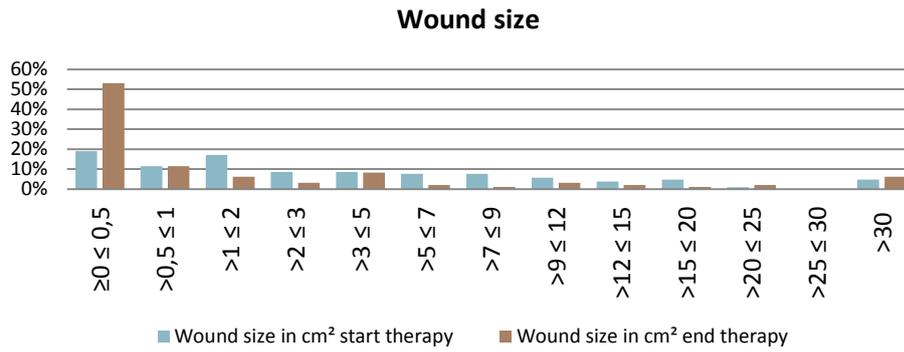
Aim: This poster will describe the results of an analysis into the use of a foam dressing with a soft silicone wound contact layer* in specialist wound care centres in Germany. The dressing differs from other foam dressings with soft silicone in that it incorporates larger exudate channels, thereby allowing it absorb low and high viscosity exudate.

Methods: Gvw operates ten specialised wound care centers in Germany all working with the same standard treatment path and a digital wound documentation system including up to 500 parameters. For this analysis the dressing was applied to 108 wounds over a 4 month period in three wound care centers. The analysis was extracted from the database including following wound specific parameters: wound type, ICD10, wound age at start of therapy, location, visual assessment, moisturisation, size, exudate, wound infection, treatment duration and interval of dressing change.

Results:

- The dressing was applied to 108 wounds during the period
- 90% leg and foot ulcers
- 88% of wound were moist, 3,7% wet at start of therapy
- Treatment duration with the dressing on average 54.6 days
- Visual assessment of wounds changed from 0,9% to 31,5% pink from start to end of therapy
- Significant reduction in wound size from average 7.2 cm² to 5.9 cm²
- Positive influence on wound exudate (start of therapy 90% of exudate serous, cloudy or bloody, end of therapy 30% no exudate)
- Results in dressing change interval shows longer wear times compared to other foam dressings (n = 5.075)
- Dressing is easily removed and shows only minimal pain during dressing change





Conclusions: The use of the dressing was associated with a good healing response. The findings indicate that the dressing is suitable for use throughout the wound healing phase where there is a requirement for exudate management. The dressing effectively managed all types of exudate including high viscosity exudate particularly in the early stages where high viscosity exudate is more likely to be present.

The dressing also proves to be cost-effective in view of the relatively long wear times revealed in the database analysis.

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[EP354] THE USE OF CELLULOSE FILM DRESSING(CFD)* ON PARTIAL THICKNESS BURNS AS PRIMARY DRESSING. INVESTIGATING THE HEALING TIMETABLE AND THE SCAR'S QUALITY- A PILOT STUDY

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Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim: The standard dressing on partial thickness burns is either non adhesive vaseline gauzes, povidone-iodine impregnated gauzes (PID) and bandages for stabilization or antimicrobial barrier silver dressing(SD), gauzes. Pain, movement limitation, frequent changes and increased likelihood of infections are common incidences. We used instead a cellulose film dressing (CFD)* with the characteristics of a soft, semi-transparent wound dressing stabilized with bandages. Our objective was to investigate safety, ease of use, tolerance, efficacy, overall cost, healing time of the burn and scar's quality compared to our standard methods.

Method: We included 15 patients, 12 men and 3 women (Mean age 47 years). Underlying disease was partial thickness burn (PTB)(~3%TBS). CFD was applied the 1st post-burn day on 5 of the patients following appropriate consensus. The other 10 patient's PTBs were treated with PID or SD. Photographs were taken on the first, seventh and fourteenth day. Scar's quality was estimated clinically and measured with the Vancouver and the POSA scales.

Results / Discussion: All the patients with CFD and SD were completely healed on day 14 but only 4 out of 5 burns treated with PID were healed. The healing time of CFD was 20% better than the PID but 10% less than the SD. Scar's quality was analogue to healing time and according to Vancouver and POSA scale, scars were acceptable with SD and CFD but not so satisfying with PID.

Conclusion: The CFD is safe, easy to use, and comfortable for patients, peels off easily after complete healing, promotes rehabilitation. Healing time is shorter and the final scar is acceptable for both physician and patient. Total cost is lower compared to standard dressing methods.

*Cuticell® Epigraft-BSN medical.

[EP355] A PROPOSAL TO UNDERSTAND THE MECHANISMS OF LONG FILAMENT ACTIVATED CARBON CLOTH IN WOUND HEALING

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E-poster Session: Dressings 3

Aim: To identify if the conductive properties of Long Filament Activated Carbon Cloth* (LFACC) re establish an electrical field in the wound bed and stimulate tissue reconstruction, macrophage¹ and other antimicrobial activity.

Method: A team of clinical, immunological, microbiological and tissue reconstruction specialists will for the first time undertake a series of in vitro and in vivo collaborative evaluations (subject to final ethical approval) with diabetic and non diabetic wounds. Measurements will include wound area, pain scores, exudate levels, duration of treatment, time to healing, rate of healing, surface potentials and soiled dressing investigations.

Results / Discussion: LFACC is carbon "nanoporous" technology and has been shown to heal wounds^{2,3,4} ranging from chronic non healing (fig 1, 2) to surgical defects (dehiscent fig 3, 4) faster than those treated with other therapies.



**Figure 1 Day 1
Day 14**



Figure 2 Day 104



Figure 3 Day 1

Figure 4

It is postulated that the conductive property of LFACC technology is the most significant factor contributing to wound resolution.

Conclusion: LFACC technology indicates significantly reduced healing times in all wound types and patient groups. There is a significant cost benefit to the healthcare provider and patient in reducing the time to heal chronic wounds⁵.

References:

* Zorflex®

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[EP356] A FOAM DRESSING COATED WITH NET-SHAPED HYDROGEL FOR SKIN GRAFT DONOR SITE

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Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim: The aim of this study was to report our experience with a new foam dressing coated with net-shaped hydrogel in to management of skin graft donor site.

Method: For skin graft donor site we decided to use a new type of foam dressing coated with net-shaped hydrogel on the wound-facing side. Through this net-shaped structure, the excessive wound exudate is absorbed quickly and effectively without drying out the wound. A prospective case series study was conducted from March to September 2014.

Results / Discussion: 20 patients were recruited for the study. There were 9 males and 1 female patient with an overall mean age of 62 years (range 59-92 years). In 19 patients the skin graft donor site heals in 10 days with good pain control.

We think that with the use of this foam dressing the healing process is assisted by the water and bacteria-proof film backing. Cells in the wound area have to be kept sufficiently moist so that granulation and epithelialisation can proceed. In addition owing to the moist gel layer, the dressing does not stick to the wound.

Conclusion: This study suggest that this foam dressing is safe and effective for management of skin graft donor site and this foam dressing coated with net-shaped hydrogel is now our first choice in the management of skin graft. However, to yield statistically significant results, larger studies must be performed.

[EP357] MEDICAL GRADE HONEY AS AN ALTERNATIVE TO SURGERY- A CASE SERIES

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Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim: Wound management challenges are sometimes compounded by comorbidities that place patients in a high risk category for intraoperative interventions. Others forego surgery in lieu of conservative therapies due to fear, cost, or the ideology that their body is capable of healing. Without surgical debridement the consequences could be compromised healing and/or infection. This case series describes the successful outcomes of twelve patients with dissimilar acute wounds who were managed with medical-grade honey, Active Leptospermum Honey (ALH), as an alternative to surgery.

Method: A retrospective review was conducted of clinical experiences, charts, and photo documentation of patients of varying ages. The inclusive criteria were that surgery was recommended for debridement or skin graft, patients declined surgery, were then treated with ALH, and had regular follow-up.

Results / Discussion: All twelve patients were successfully managed with ALH. The concept began when a 100-year-old patient presented with a lower leg wound with thick, black eschar that was too painful for bedside removal. Her cardiac history and intense fear of the operating room precluded surgery. Four other patients followed with complex wounds, yet high risk for surgery. Seven other patients were low risk for surgery, but desired to avoid intraoperative procedures. Autolytic debridement with ALH facilitated healing without surgery or hospital admission.

Conclusion: ALH in these cases was instrumental in facilitating autolytic debridement and healing while avoiding infection. Although further research should be done in this realm, ALH may be a suitable conservative alternative when surgery is not desired.

[EP358] HYDROTHERAPY: SIMPLE, SAFE AND EFFECTIVE FOR COMPLEX WOUNDS

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Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim: Evaluate the hydrotherapy as a viable treatment for complex wounds

Method:

- Inclusion: Patients with complex wounds without improvement with the conventional treatment; male and female, any age and any etiology
- Exclusion: Withdraw of treatment; contamination and infection of wounds; oncological wounds and tumors.

Bandages used: Bandage(1)* and bandage(2)**. Bandage(1)* used 3 to 5 days and changed daily until the wound was clean. After that, bandage(2)** was used 3 to 7 days until the wound was closed or prepared to plastic surgery. Photographic evaluation was made every day. Numeric pain scale (from 1 to 10) was used throughout the treatment. 25 patients were included.

Results / Discussion: 22 patients were treated and 45% (10) had spontaneous wound healing. The most common etiology was motorcycle trauma. Mean time for healing wounds was 41 days. Feeling of pain was reduced after use and during exchanges of bandages overall. Patients and nurse team experienced better comfort. Hospitalization period was reduced in all patients. The use of only two types of dressings facilitated the approach of wounds. They decreased confusion and error in choice the best product for each wound. They promoted quick improves and good cleaning in the bed of the injury. There was improvement in the granulation and turn these deep wounds more superficial. There was improvement in pain from 5-6 to 1-3. The cost of treatment and the period of hospitalization were reduced to 50% in average.

Conclusion: Hydrotherapy is simple, effective and inexpensive way for complex wound treatment.

*Tender Wet®

**Hidrotac®

[EP359] THE USE OF A FIBRE* DRESSING IN PODIATRY

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Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim: Managing complex wound such as diabetic foot ulcers requires a dressing product which can perform many functions. Fibre dressings* are regularly used because of their ability to conform to the wound and provide a moist wound environment. They should be able to absorb excess exudate, without macerating the healthy tissue which surrounds the wound, and also have proven haemostatic properties to manage any bleeding which occurs following sharp debridement.

Method: A fibre dressing was evaluated on 10 patients with complex foot ulcers. All patients had a full assessment including TEXAS and SINBAD classifications. The dressing was evaluated over a 4 week period, within the existing care pathway which included sharp debridement and offloading of the foot where necessary. All patients attended the specialist podiatry clinic for weekly assessments, with interim care delivered by community nursing services or self care where possible.

Results / Discussion: All patients presented with neuropathic or neuro-ischaemic wounds which required sharp debridement, followed by wound care with a fibre dressing. The dressing performed well on the 10 patients who were recruited into the evaluation, managing exudate and conforming to the wound bed. In all patients the wound progressed well, with a reduction in wound size and an improvement in the wound bed condition. No peri-wound skin was macerated, and the dressing was easy to use.

Conclusion: The fibre dressing evaluated well, demonstrating its effectiveness within a pathway of care for the management of diabetic foot ulcers.

*Alginates and Hydrofibres

- ActivHeal® AquaFiber Dressing – Advanced Medical Solutions. UK.

This study was supported by Solent NHS Trust Podiatry Department.

[EP360] THE USE OF MULTIPLE MODALITIES IN THE MANAGEMENT OF EXPOPHOLAS AND GASTROSCHEISIS IN THE NEONATE

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Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim: Exompholas are described as a hernation of the intra-abdominal viscera through an open umbilicus ring at the base of the umbilical cord while a gastroschisis is defined as the evisceration of the foetal intestine through a defect in the paraumbilical anterior abdominal wall with hernation of gastro-intestinal structures into the amniotic cavity*. Babies born with this condition are more likely to be born prematurely and require immediate postnatal surgery with favourable outcomes in 90% of cases*. The aim of this four case review examines various wound management strategies/modalities for babies who were born with an exomphalos or gastroschisis. Although a full-term baby's skin is structurally comparable to that of an adult, it possesses only 60% of the epidermal and dermal thickness, while at thirty weeks gestation the stratum corneum is only two to three cell layers thick providing very limited barrier function. Therefore the anatomical and structural differences in the neonates' skin make these patients susceptible to percutaneous absorption.

Method: The four cases in this study all had repair of abdominal defect with a porcine dermal collagen implant. Due to post-operative complication the wounds broke down and dehisced. A structured wound assessment guided the decision as to which wound care product to use. A multitude of wound care products were used including, medical grade honey, PHMB gel, NPWT and silicone foam dressings.

Results / Discussion: There were positive outcomes in maintaining a moist environment on the wound bed thus facilitating the wound-healing process. In the case studies having a moist environment benefited gradual wound closure. If left dry the mesh would desiccate.

Conclusion: Paediatric wound care poses many challenges with wound complications as a source of morbidity in neonates. There was a positive wound outcome in all four cases. Careful selection and consideration of advanced modern wound care products and therapies contributed to a reduction in wound size, removal of devitalised mesh and wound closure.

*Kilby, 2006

[EP361] USE OF ACTIVE LEPTOSPERMUM HONEY (ALH) TO MANAGE DIFFICULT POST-OPERATIVE PEDIATRIC PILONIDAL CYST WOUNDS

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¹.

Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim: Pilonidal cysts which often occur in young healthy individuals are historically difficult to heal after surgical intervention¹ ALH has been shown to assist in the healing of other challenging wound etiologies due to its low pH and high osmolality stimulating the healing process.² This series presents five cases of non-healing pilonidal wounds that were managed with ALH.

Method: Five patients aged 14-17 with chronic, reoccurring pilonidal cysts and histories of surgical excisions were referred for wound management due to lack of healing. ALH was initiated to reduce necrotic tissue, facilitate granulation and reduce risk of infection³. Prior to initiating either ALH gel or calcium alginate all wounds had measureable volume ranging from 3cm³ to 22cm³. Mean initial wound volume was 8.39cm³.

Waxing, shaving, and laser hair removal also aid in healing and prevent reoccurrence.

Results / Discussion: Upon weekly evaluations the wounds began to improve and a reduction in size and depth was noted. Four of the five wounds closed, one patient did not return for follow-up but showed marked improvement. Wounds came to closure in time ranging from 4 weeks to 11 weeks. An average of 44 days of out-patient wound care with ALH followed by a covered dressing was completed to bring the wounds to closure.

Conclusion: ALH provided safe, effective debridement and assisted with wound healing for this group of young patients. No untoward effects were noted and continued research would be beneficial.

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[EP362] ASSESSMENT OF TREATMENT WITH A CAPILLARY ACTION DRESSING

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E-poster Session: Dressings 3

Aim: From January 2011 to December 2014, 276 patients with wounds of varying aetiology were treated with a capillary action wound dressing* by the wound management team at the 'am Steinberg Clinical Centre' in Reutlingen. This wound dressing was used on lesions of different causes, including 30% on patients with post-operative wound healing disorders, 12% on patients with DFS, 21% on patients with PAD and 11% on patients with CVI.

The hydrocapillary dressing can be used to help address various wound problems, e.g. in exudate management, to promote granulation and to manage fistulae. The three case studies below illustrate the action of the dressing.

Method: Case study 1: Fournier gangrene

77-year old patient, who attended our clinic from 18.08 to 17.09.2014. He was admitted with Fournier's gangrene and the wound immediately debrided surgically.., Post-operative Wound care consisted of a primary capillary action dressing to support granulation in preparation for a split-thickness skin graft covered by an absorbent hydrophobic WA* dressing to manage exudate .

Case study 2: Non-healing postoperative wound

74-year old patient, with a non-healing post-operative wound after abdominal surgery, who was an in-patient from 10.01 to 02.03.2011. The wound was first treated with NPWT and subsequently with Vacutex. Here too, we saw a cleansing of the wound bed, clean granulation tissue and effective exudate management.

Case study 3: Care of a mesh graft

75-year old female patient with CVI in both limbs. Repeated debridement with subsequent mesh graft on the left. Initial wound care was with NPWT, followed by Vacutex and Urgotül to ensure better take of the mesh graft.

Conclusion: In all three case studies the use of the capillary action dressing saw the extent of granulation increase and wound exudate be transported efficiently and safely .

[EP363] EXUDATES ABSORPTION CAPACITY OF DIFFERENT SUPERABSORBENT DRESSINGS

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E-poster Session: Dressings 3

Chronic wound or non-healing skin wound such as venous leg ulcer represent a significant clinical problem. However several studies have shown that impaired healing is associated with excessive levels of exudates containing enzymes which degrade growth factors and newly formed extracellular matrix. Superabsorbent dressings may be particularly effective for wound healing by exudates absorption. The aim of this study was to evaluate absorptive capacity of different superabsorbent dressings marketed in France in order to better manage exudative wounds. The tests were performed according to the French and European Standard recommendations: NF EN 13726-1: 2002. In this study we have reported that

3M™ Tegaderm™ Superabsorber, a new generation of polyacrylate superabsorbent, has the best absorptive capacity when compared to six other superabsorbent dressings. These data may contribute to improve exudative wounds management as seen frequently in venous leg ulcers.

[EP364] HOW OUTSTANDING MOISTURE RESPONSIVENESS CAN PROVIDE PROLONGED WEAR-TIME OF A HIGH-PERFORMANCE FOAM ADHESIVE WOUND DRESSING: A COMPARISON OF SEVEN COMMONLY AVAILABLE WOUND DRESSINGS REGARDING THEIR MVTR AND FLUID-HANDLING CAPACITY

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Thursday, May 14, 2015

E-poster Session: Dressings 3

This study compared moisture vapour transmission rate (MVTR) and wear time or fluid-handling capacities of six adhesive foam dressings to a reformulated control dressing. Standardised in vitro MVTR methodology and a previously published in vivo artificial wound model (AWM) were used. Mean inverted MVTR for the reformulated dressing was 12 750 g/m²/24 hours and was significantly higher than four of the six comparator dressings (P <0.0001), which ranged from 830 to 11 360 g/m²/24 hours. Mean upright MVTR for the reformulated dressing was 980 g/m²/24 hours and was significantly different than all of the comparator dressings (P <0.0001), which ranged from 80 to 1620 g/m²/24 hours (three higher/three lower). The reformulated dressing median wear time ranged from 6.1 to >7.0 days, compared with 1.0 to 3.5 days for the comparator dressings (P =0.0012 to P <0.0001). The median fluid volume handled ranged from 78.0 to >87 ml compared with 13.0 to 44.5ml for the comparator dressings (P =0.0007 to P <0.001). Interestingly, inverted MVTR did not correspond well to the AWM.

These results suggest that marked differences exist between the dressings in terms of both MVTR and wear time or fluid-handling capacity. Furthermore, high inverted MVTR does not necessarily predict longer wear time or fluid-handling capacities of absorbent dressings. Therefore, rather than attaching a particular relevance to either the inverted or the upright in vitro MVTR values, it is probably more important that the dressing simply be 'adaptive' in nature, that is, to be moisture reactive by exhibiting higher MVTR under wet wound conditions and lower MVTR under dry wound conditions and that comparisons across dressings be done under similar conditions.

[EP365] DOES A SILVER BASED DRESSING IMPROVE OUTCOMES IN CHRONIC NON HEALING WOUNDS? -A SINGLE CENTRE REPORT FROM INDIA

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Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim: To evaluate the improvement in chronic non healing wounds when initially treated with silver based dressings.

Method: Over the time period of 6 months (March to September 2014) at a tertiary care hospital in Gurgaon (National Capital region, India) patients who reported with infected and chronically non healing wounds of at least 3 weeks duration were treated with a protocol of wound assessment, culture and sensitivity, appropriate antibiotics, debridement and silver based dressings and assessed for wound readiness for a definitive surgery.

Results / Discussion: 40 patients (60% Male), aged 54 (sd +/- 4) years who reported to the outpatient department with wounds size 14.5 X8 cms (sd +/- 6 X4.6 cms)were treated with silver based dressing for an average of 18 days (sd +/-5). The wounds were located in the lower limbs (30/40), upper limb (3/40) and sternal or torso wounds (7/40). 24/40 patients had coexisting medical conditions such as Diabetes (20), hypertension (24), renal disease (10) and heart disease (10). All medical conditions of the patients were well controlled. The silver dressings were changed regularly (3 +/- 1 day) and the wounds were carefully observed for the decrease in exudate and the first appearance of healthy granulation tissue (6 +/- 3 days). All patients were successfully treated and prepared for definitive surgeries (secondary closure, split thickness grafts or flap coverage).

Conclusion: The application of silver based dressings improved patient comfort by decreasing the frequency of dressings; there was early appearance of healthy granulation tissue which made them good candidates for definitive surgery.

[EP366] COMBINED APPLICATION OF ZIGUIZHANGPI OINTMENT AND SILVER ALGINATE DRESSING FOR WOUNDS AFTER BREAST CANCER OPERATION

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Thursday, May 14, 2015

E-poster Session: Dressings 3

Objectives:

To observe the curative effects of ZiguiZhangpi Ointment(ZG combined Silver alginate dressing in the treatment of wounds after breast cancer operation and explore the mechanism.

Method:

Eighty patients were randomly divided into two groups(40 per group):the patients in control group were treated by Silver alginate dressing, and patients in treatment group were treated by ZG combined Silver alginate dressing. After 6-week treatments, the clinical effects, wound healing, and expression of vascular endothelial growth factor (VEGF) were evaluated.

Results:

In the control group ,the cure rate and total effective rate were 68.42%, 81.58%,and they were 86.49%,94.59% respectively in treatment group($P<0.05$);Immunohistochemistry show VEGF expression in control group was (1117.95 ± 373.54) um² ,and (1447.64 ± 240.18) um² in treatment group($P<0.01$).Conclusion Combined application of ZG and Silver alginate dressing can improve wound healing rate and upregulate the expression of VEGF. It shows no noticeable adverse effect, therefore it was worth of clinical application.

[EP367] SIX YEARS' EXPERIENCE OF POLYMERIC MEMBRANE DRESSINGS (PMD) USED ON CHILDREN WITH EPIDERMOLYSIS BULLOSA (EB)

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Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim:

A retrospective study to evaluate the effectiveness of polymembrane dressings (PMD) in the management of acute and chronic wounds in children with epidermolysis bullosa (EB).

Method:

We looked at healing rates in children with severe forms of EB who had been treated with PMD for the past six years with specific reference to atraumatic dressing changes, duration of dressing changes, rate of healing.

Results / Discussion:

In comparison with previous dressing choice and regimen, PMD were more effective in rate of healing, dramatically reduced length of dressing time and caused minimal trauma in this fragile patient group.

Many dressings are unsuitable for children with EB due to the extreme fragility of their skin. An atraumatic wound contact layer is often required to prevent adherence of dressings. PMD are suitable for direct wound contact therefore reducing complex and lengthy dressing changes. The inherent cleanser removes the need for wound cleansing, reducing pain and distress.

Conclusion:

Based on our experience PMD remain our dressing of choice. For the past six years all infants with wounds resulting from inter uterine trauma and damage from delivery have been treated with PMD. PMD continue to be our first line dressing for these children.

[EP368] AN EVALUATION OF POST-SURGICAL DRESSING INTERACTION WITH EXPERIMENTALLY INDUCED BLISTERS

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Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim: To evaluate the interaction of wound dressings/adhesives with skin blisters.

Method: Three areas of skin on the volar forearm (1 and 2 sites on each arm) of volunteers (n = 12, 45 – 65 years) were stripped of superficial corneocyte layers using skin surface sampling discs *. A device was then placed over the denuded skin to deliver negative pressure (up to – 40mm Hg for about 3 hours) to an area 6 mm in diameter to induce a superficial blister by separating the epidermis from dermis. Immediately after the blisters were made a strip (6 mm in width) of the adhesive component of one of three post-surgical dressings (A, B and C) were applied. The blisters/dressings were then covered by a secondary dressing to prevent loss of adherence or damage and retained in place for 24 hours. After 24 hours, a tool** was used to peel the dressings from the subjects. This was videoed and it was noted whether dressing adherence ruptured the blister or not.

Results / Discussion: Dressings A and B caused rupture by de-roofing respectively 8/12 and 3/1 blisters for each product. Dressing C caused none rupture out of 12 blisters. Video evidence was used to show how effective/ineffective the dressings were at protecting against blister rupture.

Conclusion: Post-surgical skin blisters in themselves are painful and decrease healing time and patient QoL. If ruptured there is the possibility that they might become infected adversely affecting clinical outcomes. Identifying dressings that might cause blisters and rupture of blisters provides evidence that will allow the nurse to make an informed choice of post-operative dressing.

* D-squames

** Zwick

[EP369] MANAGING WOUNDS USING LONG FILAMENT ACTIVATED CARBON CLOTH (LFACC) : A CASE SERIES

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Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim: To evaluate the types of wounds that benefit from the use of LFACC.

Method: Patients were recruited according to the complexity of their underlying condition and their history of previously used products.

Results / Discussion: The patients involved in the study were willing to be treated with the activated carbon cloth with its microporous structure. This results in rapid absorption kinetics and the capability to absorb to a higher level of purity. This dressing's large surface area enables the cloth to be highly efficient at adsorbing both liquids and gases. These results show favourable outcomes with very little or no contraindications to the patient.

Conclusion: The patients that were selected in this evaluation have all had LFACC as part of their wound management. The use of this product reduced the pain in the wounds and also reduced the wound volume in the lower legs and abdominal wounds. In contact with slough the conductive nature of the carbon and slough seemed to accelerate the slough removal but further studies may help us have a better knowledge of the biomechanics on how this happens. With the commercial scrutiny of wound products and the need to find the optimum dressing which aids wound cleansing without side effects and also the need to reduce the over use of antimicrobials I feel that this product is something we should consider in our dressing selection.

Appendix: "Long Filament Activated Carbon Cloth otherwise known as Zorflex **Zorflex® Long Filament Activated Carbon Cloth (LFACC) trademark of Chemvicon Carbon Cloth Division, Houghton-le-Spring, Tyne and Wear, DH4 5PP, United Kingdom.

[EP370] THE PERFORMANCE REQUIREMENTS OF WOUND DRESSINGS IN THE 21ST CENTURY

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Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim: To identify the performance (multi-functional) requirements of wound dressings in the 21st century.

Method: Review of the functionality of inert, interactive and bioactive dressing groups and apply these to dressings using hydration response technology (HRT)*.

Results / Discussion: In terms of wound bed preparation HRT dressings are effective within all components of TIME.

TIME components	HRT dressing performance attributes evidence
T – non viable or deficient	Effectively removes slough “soft debridement” (Romanelli et al 2009), (Cutting 2009)
I - infection/inflammation	bacterial sequestration, MMP and cytokine modulation (Westgate & Cutting 2013), Wiegand et al 2013), (Hipler et al 2014)
M – moisture balance	moist interface maintained, high absorbency, high fluid retention (including under compression), avoidance of maceration (Cutting 2008), (Cutting & Westgate 2012), (Romanelli et al 2009), (Cutting 2009)
E – non advancing or epithelial edge undermined	wound edge protection (Romanelli et al 2012), (Romanelli 2009)

In addition, health economic evidence demonstrates that HRT dressings offer a cost effective option in the treatment of chronic wounds. HRT dressing’s moist interface, together with absorbency and retention of fluid, soft debridement capability and bacterial sequestration complies with the Interactive dressing category. The additional performance attributes of MMP and cytokine modulation would appear to suggest that HRT dressings perform in compliance with the bioactive category.

Conclusion: Multi-functionality appears to be an advantageous trend in dressings suitable for the demands of 21st century technology.

HRT dressings demonstrate multi-functionality together with cost effectiveness and would appear to have performance attributes relevant to Interactive and Bioactive dressing categories.

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[EP371] PHYSICAL PROPERTIES OF A FLEXIBLE METHACRYLATE DRESSING IN THE MANAGEMENT OF MOISTURE OVER A LIVING HUMAN FIBROBLAST-DERIVED SKIN SUBSTITUTE.

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Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim: To investigate the application of a transforming methacrylate dressing (TMD) as a secondary dressing to a human fibroblast dressing (HFD) as a fibroblast-derived dermal substitute serving as living skin equivalent in a simulated wound model. Advances in wound care management include application of human fibroblasts into the wound bed. There is a paucity of published data on appropriate secondary dressings for this application and no prior study has assessed the performance of a TMD in conjunction with human fibroblasts.

Method: Design: In-vitro experimental study. HFD consisting of a human fibroblast-derived dermal substitute product with TMD as a secondary dressing were studied of fluid transfer and adhesion to a simulated wound model. Main Outcome Measures: Moisture vapor transmission rate (MVTR), material water loss, pressure drop, and adhesive force.

Results / Discussion: The amount of moisture removed for the combination of the HFD and the dressing was substantial enough to provide MVTR through the substrate at between 8 and 9 liters/m²/24h. The combination of HFD with TMD resulted in a pressure drop of nearly 300 millitorr (mTorr) and the TMD provided an anchoring force of 48 g/cm.

Conclusion: Total moisture managed as determined by MVTR for the combined system is greater than that of the HFD alone and the adhesive force created is sufficient to anchor the HFD to a simulated wound substrate. Clinical trials combining HFD with a TMD as a secondary dressing are warranted to confirm promising findings of the present study in an in- vivo setting.

[EP372] TOPICAL AGENTS AND DRESSINGS FOR PILONIDAL SINUS WOUND HEALING BY SECONDARY INTENTION: A SCOPING REVIEW

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Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim: Pilonidal disease is a chronic and debilitating condition often results in recurrent abscess and open wounds. The overall aim of the scoping review is to summarize a wide range of evidence to examine which topical agent or dressing is effective in promoting pilonidal wound healing by secondary intention.

Method: A comprehensive literature search was conducted using MEDLINE and CINAHL. Outcomes included wound healing, infection, pain, and quality of life. Two reviewers independently extracted information from selected papers using a standardized abstraction form.

Results / Discussion: A variety of topical agents and dressings were used to treat pilonidal wounds. There are some evidence from randomized controlled trials to demonstrate that topical zinc oxide, moist wound management (including hydrogel, hydrocolloid, and silastic foam dressings), negative pressure wound therapy, platelet-rich plasma and topical *Rhizophora mangle* extract are effective in the management of pilonidal sinus wounds. Only case series are available to suggest the benefits of antimicrobial agents such as silver, honey, and polyhexamethylene biguanide.

Conclusion: Despite the dearth and poor quality of the existing evidence, review of the literature reveals some evidence to suggest that certain dressings may be superior to other topical agents in the treatment of pilonidal sinus wounds. Future studies are required to offer a comprehensive comparison of the cost-effectiveness of various treatment options.

[EP373] STANDARDISING TREATMENT TO PROVIDE BETTER PATIENT, CLINICAL AND BUDGET OUTCOME

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Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim: Due to the standardization of dressings used for leg ulcer management and because of clinical outcomes seen by using polyhexanide wound irrigation* and new wound gel formula* it was decided to evaluate what secondary dressing should be used.

Method: The type of wound included in this evaluation for over a 3 month period was non-healing critically colonised venous leg ulcers that had been identified for at least three months were evaluated with polyhexanide wound irrigation and new wound gel formula in combination of:

** Dialkyl carbamoyl chloride (DACC) swab and surgipad

*** hydrofibre

The number of patients in evaluation was 15 and the outcomes were measured by healing rates using clinical measurements of wound area and depth, wound exudate level, odor and pain scores using McGill pain index. Secondary dressing was chosen through a rotation basis.

Results / Discussion: The use of polyhexanide wound irrigation and new wound gel formula with DACC swab and surgipad were generally well tolerated by patients, odor and pain scores were greatly reduced than using hydrofibre as secondary dressing.

Conclusion: No firm conclusions can be drawn from the study due to the small sample size but the results of this study reflected that the combination of wound gel and DACC swab increases clinical outcome by reducing pain and wound odor and significantly kick-start wound healing in a cost efficient way.

*Prontosan wound solution and prontosan wound gel X

**Cutimed sorbact swab and surgipad

***Aquacel extra

[EP374] SHRINKAGE OF SILVER HYDROFIBER™ DRESSING WITH STRENGTHENING FIBRES COMPARED TO A SILVER GELLING FIBRE DRESSING IN AN IN VITRO TEST

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Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim: The barrier function of wound dressings is key for minimizing the spread of infection. Dressing shrinkage when moistened may necessitate the use of larger sized dressings to prevent exposure of the wound. This study compared dressing shrinkage of silver hydrofibre* with strengthening fibres (SHFSF)** with an absorbent silver gelling fibre (SGF)*** dressing.

Method: Five dressing sizes were sampled from 15 batches with a minimum of triplicate dressings/batch (n=70). The length and width of each dry dressing was measured three times. Equal excess amounts of ionic solution were dispensed onto the dressings. Following five minutes stand time, excess fluid was decanted off the dressings and the width and length measurement were recorded in three places across the dressing. Percentage shrinkage in length and width was then calculated for each dressing. Maximum dressing area was calculated using the maximum width and length of the three individual measurements. Statistical analysis was conducted to investigate for evidence of a reduction in dressing area between SGF*** and SHFSF**, linear mixed models were performed using a statistical program (SAS v9).

Results: For all dressing sizes tested, significantly less shrinkage was observed with SGF*** compared to the SHFSF** dressing (p<0.001). Shrinkage was not consistent across dressing sizes; the difference between SHFSF** and SGF*** in percentage shrinkage in area ranged over the sizes from 14.4% to 20.6% with the biggest difference in shrinkage (20.6 %) observed in the small dressings size (5cm x 5cm).

Conclusion: In this study, significantly more dressing shrinkage was demonstrated for the SHFSF** dressing than the SGF*** dressing. Cost savings might be expected through the use of smaller, lower-shrinkage dressings for appropriate wounds.

* Hydrofiber™

**SHFSF=Aquacel™ Ag Extra

***SGF=DURAFIBER [◇]Ag

[◇]Trademark of Smith&Nephew, TMAll trademarks acknowledged

[EP375] DRESSING AND PRODUCTS IN PEDIATRIC WOUND CARE: A SYSTEMATIC REVIEW

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Thursday, May 14, 2015

E-poster Session: Dressings 3

Aim: There is a paucity of pediatric wound care research upon which to guide practice; despite significant technological advances in the care of premature neonates and chronically ill children, the knowledge and evidence base for the management of this population's wound care lag far behind its adult counterpart. Aim of this review is to evaluate the current literature about dressings and products in pediatric wound care.

Method: A systematic review on dressings and products in paediatric wound care was performed for all articles from January 2004 to July 2014 in Medline, Embase, Central, on hand-searched reference lists from all identified articles. We searched the terms: wound and pediatric and dressing.

Results / Discussion: We founded only ten articles: one retrospective studies, one review, four classical articles, two guidelines, one prospective open-ended nonrandomized study, one research sampler.

Wound care practices for neonatal and pediatric patients, including the choice of specific dressings or other wound care products, are currently based on a combination of provider experience and preference.

Conclusion: There are a small number of published clinical guidelines based on expert opinion; rigorous evidence-based clinical guidelines for wound management in these populations is lacking.