

## [EP095] COMPARISON OF TOXICITY OF THE NEW OCTENIDINE-HYALURONAN ANTIMICROBIAL DRESSING WITH SILVER CONTAINING DRESSINGS

Kristina Nešporová<sup>1</sup>, Dolní Dobrouč, Czech Republic , Hana Vágnerová<sup>1</sup>, Dolní Dobrouč, Czech Republic , Vladimír Velebný<sup>1</sup>, Dolní Dobrouč, Czech Republic

<sup>1</sup>*Contipro Biotech; Physiology of Cell*

Wednesday, May 13, 2015

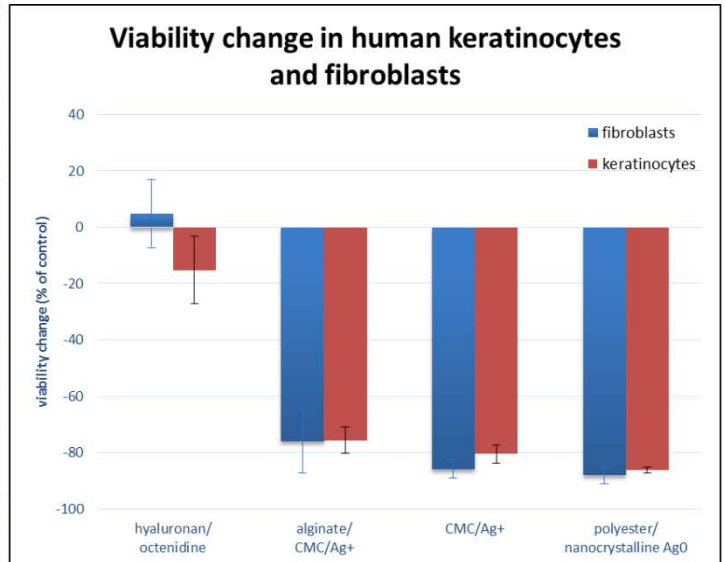
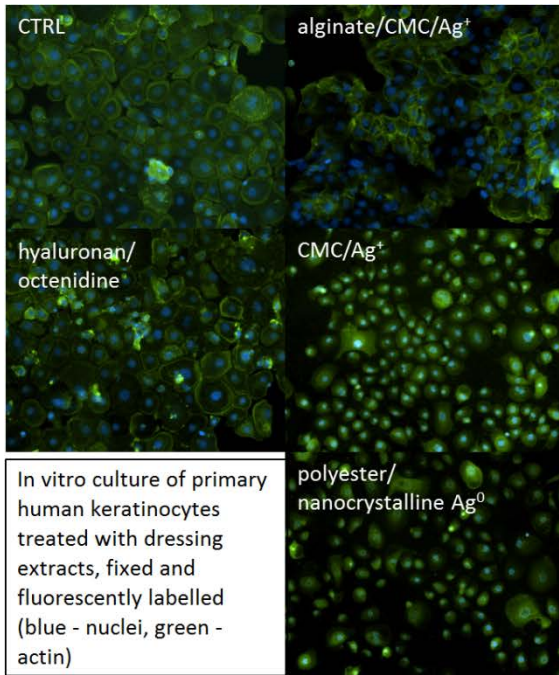
E-poster session: Dressings 1

**Aim:** Silver is a potent antimicrobial compound used in various applications, among them dressings for infected wounds. Its drawback is cytotoxicity to healthy eukaryotic cells. For this reason new products are developed with different antiseptics like iodine or octenidine. Three silver-based dressing selected from commercially available products with different composition were compared with new hyaluronan-octenidine dressing.

**Method:** Whole dressings cut into pieces were used for hemolytic and immunostimulation studies. Extracts were used for cytotoxicity, cell death and other in vitro tests. MTT test was used to measured cytotoxicity on primary human skin fibroblasts and keratinocytes. Cellular death was measured by flow cytometry by detecting membrane permeability and activation of caspases. Cell morphology was assessed by fluorescent microscopy.

**Results / Discussion:** Octenidine-hyaluronan based dressings showed no acute cytotoxicity on both keratinocytes and fibroblasts while all silver containing dressings were highly cytotoxic in both in vitro models. The sublethal concentration of silver dressing extracts caused change in primary keratinocyte morphology with mostly shrunken cells and condensed nuclei. The exception was alginate/Ag<sup>+</sup> dressing which caused shift of typical polygonal keratinocyte into more elongated shape with distinct stress F-actin fibers. Octenidine-hyaluronan caused small changes in cell culture appearance with few apoptotic cells. Hemolysis of full human blood was observed on all silver dressings accompanied by induction of proinflammatory interleukin-6 release by silver dressings.

**Conclusion:** Octenidine-hyaluronan dressing is a good alternative to silver-based dressings for infected wounds. While octenidine maintains its good antimicrobial properties, hyaluronan provides natural protection against harmful effects of the antiseptic and promotes healing.



Primary human cells (fibroblasts and keratinocytes) viability after 24 h treatment with dressing extracts. Viability was measured by MTT. Results are means of min 4 independent experiments +/- SEM.

**[EP096] GOING GREEN; AN EXPERINCE OF USING 100% NATURAL NANO BIOTECHNOLOGY PRODUCT**

Kathleen Leak<sup>1</sup>, DONCASTER DN2 5LT, United Kingdom

<sup>1</sup>*Armthorpe Road ; Wound Care Sopd*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** New technologies give us a new challenging opportunity. The aim of our study was to stimulate static un-healing wounds defined as wounds, which have been unresponsive for more than six months.

**Method:**

- Unresponsive wounds present for over six months selected for inclusion
- No age or morbidity limitation
- Treatment time 2-4 weeks
- Outer dressing at clinician's discretion

**Results / Discussion:** Original study looked at 10 patients. Due to the immediate success with the small initial group, this was increased to 20. As 9 out of the 10 improved immediately. 4 of these insisted that treatment should be continued to healing. This was a deviation to the protocol and will have cost implications and in further 10 patients, the protocol was followed rigid.

Of the initial 10 patients 90% showed immediate improvement with scar tissue and peri-skin improvement.

The treatment - seems to work with the bacterial loading in the wound bed at a cellular level enabling new granulation leading to epithelial cell migration at an accelerated rate.

**Conclusion:** Not only did the wound bed show immediate improvement, the peri-skin improved leading to new preliminary results, although they are on a small number of patients, lead us to challenge our current practise and question whether we need to destroy all contamination within a wound or along with natural material, work with them.

**[EP097] EVALUATING AN IMPROVED ANTIMICROBIAL HYDROFIBER\* DRESSING IN PATIENTS WITH MULTIPLE WOUND TYPES**

Tanya Brandon<sup>1</sup>, Livingston, United Kingdom , Fiona Cunningham<sup>1</sup>, Livingston, United Kingdom , Wendy Fraser<sup>1</sup>, Livingston, United Kingdom , Ashley Mackie<sup>1</sup>, Livingston, United Kingdom , Sarah McGladrigan<sup>1</sup>, Livingston, United Kingdom , Gillian Williamson<sup>1</sup>, Livingston, United Kingdom

<sup>1</sup>*St John's Hospital; Plastics Out Patient Dept*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** To establish if use of an upgraded antimicrobial Hydrofiber dressing containing 2 elements active against biofilm\* can move chronic wounds towards healing?

**Method:** Case study evaluation.

9 patients evaluated.

Wounds 3 months to 2 years.

All had previously used antimicrobial dressings.

Care shared with specialist Plastics Out Patient Dept and community nurses.

Only change to care; application of antimicrobial Hydrofiber dressing\*

**Results / Discussion:** 2 patients withdrawn due to systemic issues.

Remaining 7 improved or healed. Dimension of 6 wounds reduced from 61 to 19.8cms. 1 patient was transferred and there is no final measurement.

Images in poster support the overall improvement in tissue.

Within initial 4 week evaluation there were positive changes noted and it was decided to continue with product.

**Conclusion:** Costs associated with chronic wounds can be measured financially<sup>1</sup> and personally.<sup>2</sup>

Once systemic contributors are addressed, local barriers of exudate, infection and biofilm must be considered as delaying wound progression. Biofilm protects bacteria within an extracellular polymeric substance (EPS) and is generally resistant to antibiotic and antimicrobial use. These wounds had previously been static despite use of antimicrobial dressings.

Financial costs associated with chronic wounds is estimated at 3% of the NHS budget.<sup>1</sup>

Biofilm can be evidenced in at least 60% of chronic wounds<sup>3</sup> therefore if use of a dressing effective against biofilm exudate and infection can progress wounds towards healing, this will have significant impact. (243)

1. Posnett J, Franks PJ. (2008) The burden of chronic wounds in the UK. *Nursing Times*; 104: 3, 44–45.

2. Jones J E et al (2008) Impact of exudate and odour from chronic venous leg ulceration.  
Nursing Standard. 22, 45, 53-61.
3. Metcalf DG; Bowler PG. (2013) Biofilm delays wound healing. A review of the evidence. Burns and Trauma:Epub.

\* AQUACEL<sup>®</sup> Ag<sup>+</sup> Extra Dressing

## [EP098] CLINICAL INVESTIGATION INTO THE USE OF A MODERN DRESSING ON SURGICAL WOUNDS

Kourosh Zarghooni<sup>1</sup>, Cologne, Germany , Jan Bredow<sup>1</sup>, Cologne, Germany , Jan Siewe<sup>1</sup>, Cologne, Germany , Christoph Lohmann<sup>2</sup>, Magdeburg, Germany , Nicole Deutloff<sup>2</sup>, Magdeburg, Germany , Heiko Meyer<sup>2</sup>, Magdeburg, Germany

<sup>1</sup>University Hospital of Cologne; Orthopedic Surgery

<sup>2</sup>University Hospital of Magdeburg; Orthopedic Surgery

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** This poster will describe a study that was undertaken to evaluate the use of a modern dressing on wounds resulting from hip and knee arthroplasty.

**Method:** The investigation started with a two-week observation phase during which 11 patients were treated with conventional dressings, followed by an intervention phase in which 49 patients were treated with the modern dressing. The primary objective was to evaluate the occurrence of blisters; secondary objectives were to evaluate skin condition, patient comfort and acceptability of the dressing, ease of dressing application, frequency of dressing changes and cost-effectiveness.

**Results / Discussion:** No blistering occurred in patients treated with the modern dressing, whereas blistering occurred in 27.3% of patients treated with conventional dressings ( $p < 0.01$ ). The modern dressing was rated highly by the clinicians. It could be left on for seven days in 70% of patients, whereas the conventional dressings had to be changed at least twice on all patients. A significant reduction in the total cost of dressing changes, from €43.10 with the conventional dressings to €28.00 with the modern dressings ( $p = 0.006$ ), was found.

**Conclusion:** By using the modern dressing, the risk of blistering was significantly reduced. Whilst the unit cost of the modern dressing is higher than that of the conventional dressings, the reduced frequency of dressing changes associated with the former means that the total cost of dressing changes is significantly lower with the modern dressing.

**[EP099] EVALUATION OF A NOVEL SILICONE FOAM DRESSING FOR THE TREATMENT OF DIABETIC FOOT ULCERS- A DUAL CENTRE-12 PATIENT CASE SERIES**

Joanne McCardle<sup>1</sup>, Edinburgh, United Kingdom , Paul Chadwick<sup>2</sup>, Salford, United Kingdom

<sup>1</sup>*Royal Infirmary Hospital; Diabetes Foot Clinic*

<sup>2</sup>*Salford Royal Hospital Foundation Trust; High Risk Foot Clinic*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** There are misconceptions that pain and discomfort are not associated with diabetic foot ulcers (DFUs). Studies have reported severe and frequent pain when changing dressings. Furthermore, patients that have lost protective sensation can experience undetected trauma leading to further damage to the wound and surrounding region. This evaluation aimed to review the effectiveness of a new silicone foam dressing for treatment of DFUs, including the patients perspective.

**Method:** Two UK centres (Edinburgh/Salford) completed a 12 patient case series using the silicone foam dressing. Both sites used a standard questionnaire including patient history, wound assessment and patient experiences of the effectiveness and comfort of the dressing. Participants were monitored for up to 6 dressing changes. All parameters were registered on 5-point Likert scales. Governance approvals for the evaluation were agreed prior to commencement.

**Results / Discussion:** Across both sites, the majority of patients had wounds for >6 months. Most patients reported that it absorbed better than their previous dressing and was more comfortable. Pain and/or trauma was absent when the dressing was removed and changed. Absorption and conformability was improved and clinicians also found the dressing easy to use and caused no secondary trauma.

**Conclusion:** Practitioners involved in managing DFUs should consider both the performance of dressings and the impact on patients. Dressings that are clinically proven to be atraumatic on removal and minimise trauma are beneficial when pain is present. The use of this new dressing is indicated where exudate management is required.

**[EP100] SOFT DEBRIDEMENT – REVIEW OF THE CONCEPT IN RELATION TO HYDRATION RESPONSE TECHNOLOGY**

Keith Cutting<sup>1</sup>, Uxbridge, United Kingdom

<sup>1</sup>Buckinghamshire New University

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** Review of the concept of soft debridement in relation to hydration response technology (HRT) dressings\*.

**Method:** Appraisal of HRT\* dressing performance in respect of ‘soft debridement’ from 2 case series each conducted over a 4-week period.

**Results / Discussion:** Case series 1, 10 VLU patients, mean duration 2 yr. All patients received short stretch compression prior to and following application of HRT dressing\*.

Devitalised tissue (6 patients) at week 0 and change in tissue type (Figure 1)

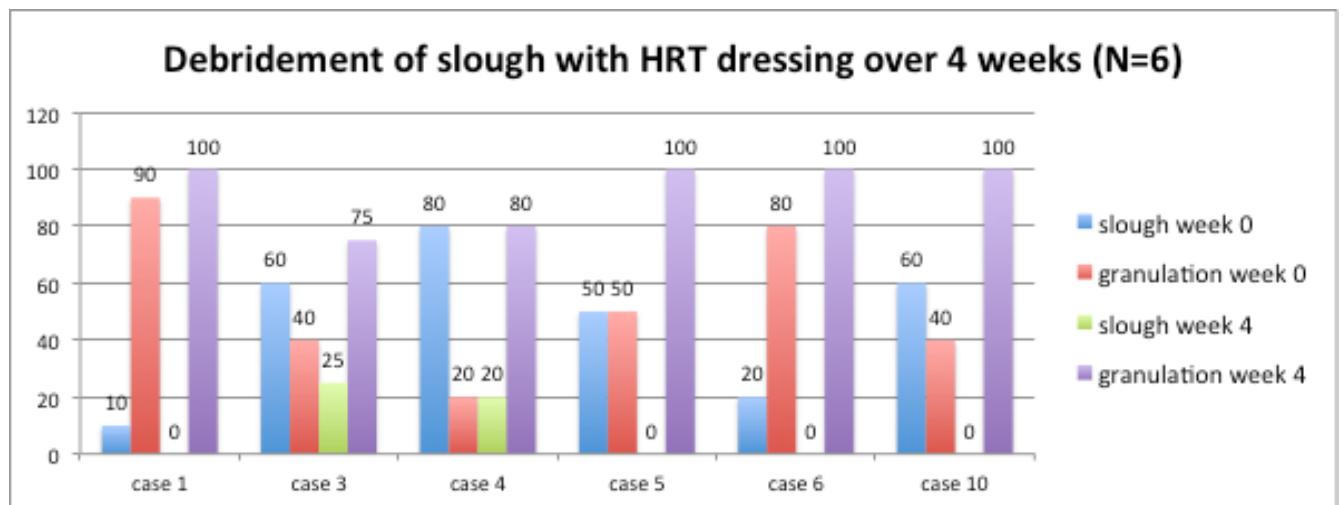


Figure 1

In an evaluation (N=53) of 5 wound types, dehisced abdo. wound (2), DFU (3), Leg ulcer (37), PU (10), vein graft donor site (1) conducted over a 4 week period the mean percentage change in tissue type from week 0 – week 4 may be seen in Figure 2.



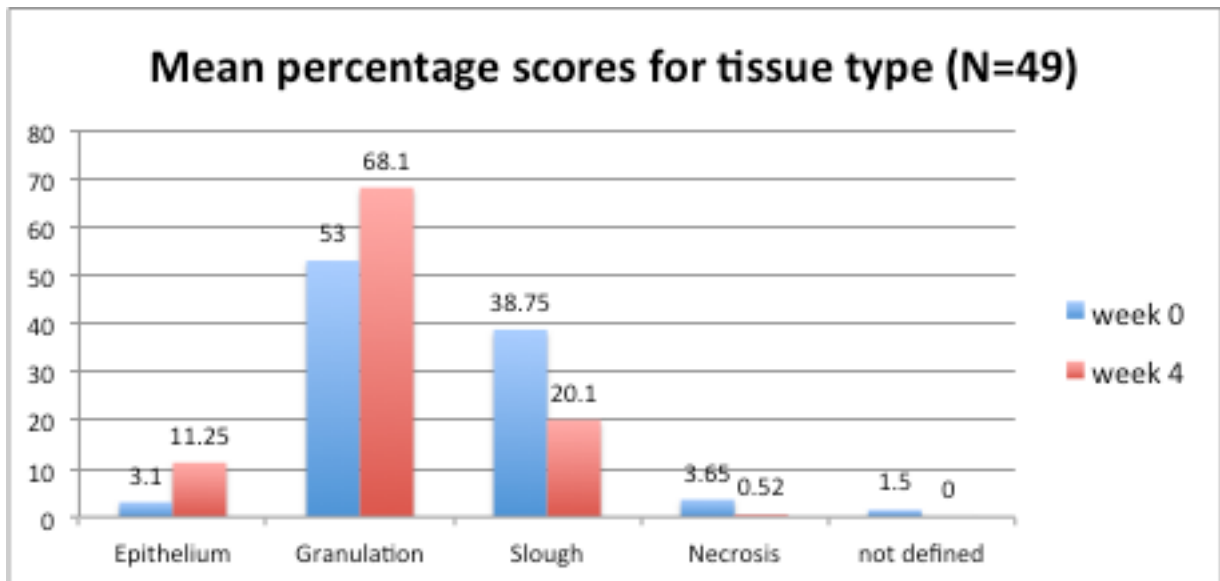


Figure 2

Regular debridement of chronic wounds is required to provide a healthy wound bed. HRT wound dressings\* support autolysis as they are in contact with wound-bed 24 hours/day.

Slough and biofilm may have a causal relationship being components of the same pathological wound processes. The removal of bioburden from the wound bed is beneficial to the repair process.

Wound dressing and performance attributes:

- Maintain a moist interface
- Absorb/retain wound exudate
- Low adherent outer dressing contact layer
- Adherence of slough to the contact surface of the dressing

**Conclusion:** Soft debridement is performed by HRT dressing. HRT dressing can actively contribute to maintenance debridement. HRT dressings may have an anti-biofilm role to play in wound debridement.

\*Sorbion Sachet EXTRA, Sorbion, Germany

## [EP101] TREATMENT OF NON-HEALING WOUNDS IN NEONATES WITH THE USE OF SILICONE MATERIALS

Jana Dvořáková<sup>1</sup>, Brno, Czech Republic , Andrea Pokorná<sup>1</sup>, Brno, Czech Republic

<sup>1</sup>Masaryk University; Nursing

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** Newborns' skin is fragile, requiring careful treatment while minimizing secondary trauma. Yet in the treatment of certain post-partum trauma inappropriate materials are used, which can harm the newborn.

To evaluate the effect of silicone materials in the treatment of newborns' skin and mucosal traumas.

**Method:** Prospective study with no control group at 11 newborns with non-healing wound caused in the early postpartum period.

**Results / Discussion:** For all newborns in those therapeutic silicone materials were used, it has been assessed high efficiency in local changes of their skin according Neonatal Skin Condition Score (NSCS). During dressing changes newborns responded calmly and a lower incidence of crying and other pain symptoms (changes in vital signs - breath, heart rate) was identified.

**Conclusion:** Silicone therapeutic materials are effective in the treatment of local skin and mucosal traumas in newborns of different aetiologies. Those materials allow a reduction in the frequency of dressing changes, appropriate pain management while minimizing the secondary traumatization fragile skin.

## **[EP102] MANAGEMENT OF VARYING EXUDATES WITH A NEW SOFT TACK SUPERABSORBENT FOAM DRESSING**

Dorte Schwanke<sup>1</sup>, Hamburg, Germany , Bernd von Hallern<sup>2</sup>, Stade, Germany , Ornella Forma<sup>3</sup>, Milano, Italy

<sup>1</sup>*Bsn Medical GmbH*

<sup>2</sup>*Elbe Klinikum Stade GmbH; Zentrale Notaufnahme*

<sup>3</sup>*Ospedale San Raffaele; Vulnology*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** A multi-centre clinical evaluation was performed to determine whether a new superabsorbent foam dressing with a soft tack wound contact layer made of silicone\* triggers wound healing whilst ensuring safe exudate management and skin protection.

**Method:** 48 exuding wounds were managed with a soft tack superabsorbent foam dressing\* with at least 2 dressing changes (DC) per wound. Exudate management, non-adherence to the wound bed and pain at dressing change were evaluated. The condition of the wound bed was recorded, along with the condition of the wound surrounding skin.

**Results / Discussion:** In 93% of the DCs speed of exudate absorption was assessed as being fast and reliable according to varying exudates. The saturation level of the dressing was very well visible in 84% of DCs. Wounds showed an increase in complete granulation, in partial epithelialization from 69% to 83% and complete epithelialization from 0% to 14%. Wounds showing no epithelialization at the end of the treatment period could be reduced from 31% to 3%. 90% of DCs were pain free. Maceration of peri-wound skin could be reduced to 10%. Intact wound surrounding skin improved to 77%.

**Conclusion:** Atraumatic dressing changes, reliable management of varying exudates and increased granulation and epithelialization can be achieved with the new superabsorbent foam dressing\*. Furthermore the dressing allows the user to monitor the saturation level and therefore provides a cost-effective and skin-protective treatment option for exuding wounds with varying exudate levels and viscosities.

\*Cutimed Siltec<sup>PLUS</sup>

## [EP103] IN VITRO ANTIMICROBIAL EFFICACY TESTING OF A NEW PHMB FOAM DRESSING

Alexis Joseph<sup>1</sup>, Winsford, United Kingdom , Daryl Johnson<sup>1</sup>, Winsford, United Kingdom , Susan Wood<sup>2</sup>, Hampshire, United Kingdom , Karl Barker<sup>2</sup>, Hampshire, United Kingdom

<sup>1</sup>Advanced Medical Solutions; R&d

<sup>2</sup>Wickham Laboratories

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** A trilaminate foam dressing has been developed (adhesive and non-adhesive) containing 1% w/w Polyhexamethylene Biguanide (PHMB) impregnated into the dressing. The aim of the study was to assess the antimicrobial activity of the PHMB foam dressing against a wide range of common wound isolates, including MRSA and VRE, over a 7 day period.

**Method:** *In vitro* testing was performed utilising a simulated wound fluid model, which involves inoculating a certain volume of simulated wound fluid (SWF) with a known concentration of the challenge organism, prior to adding the dressing. The test model was incubated at 37°C for a total of 7 days. At certain time points during the incubation period (i.e. 1hr, 2hrs, 24hrs) a volume of the inoculated SWF was removed and total viable counts (TVCs) performed to determine the total colony forming units (CFU) per ml. The antimicrobial activity was determined by calculating the log reduction of the CFU recovered from the test model at each time point from the initial challenge inoculum concentration.

**Results / Discussion:** The PHMB foam dressing (adhesive and non- adhesive) demonstrated a greater than 4 log reduction from the initial challenge inoculum for each of the microorganisms tested within a 1hr - 24hr incubation period.

**Conclusion:** The data generated demonstrates the new PHMB foam dressing to have excellent antimicrobial activity against a broad spectrum of microorganisms within a short time period (i.e. 1hr) and this is sustained for a 7 day period.

## [EP104] CAN NATURAL MATERIALS BE OPTIMISED TO IMPROVE WOUND ENVIRONMENT?

Molly Gibson<sup>1</sup>, North Yorkshire, United Kingdom , Breda Cullen<sup>1</sup>, North Yorkshire, United Kingdom , Katie Bourdillon<sup>1</sup>, North Yorkshire, United Kingdom , Bill Pigg<sup>2</sup>, Yorkshire, United Kingdom

<sup>1</sup>*Systagenix, An Acelity Company; Research and Development*

<sup>2</sup>*Systagenix*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** The combination of collagen and ORC is recognized for its protease modulating properties, however the properties of these materials in relation to bacterial bioburden is unclear. While not specifically designed to be antimicrobial, some characteristics of these biomaterials may have inherent properties that help control bacterial growth, which may provide additional benefits in chronic wounds. This study aims to compare collagen/ORC with natural, unmodified materials found in extracellular matrix (ECM) and collagen-only dressings, for their ability to reduce protease activity and control bacterial bioburden in vitro.

**Method:** To assess protease activity reduction, dressings were incubated in solutions of Elastase and MMP-9. Fluorometric assays were then used to measure residual activity. Antimicrobial efficacy was assessed using log<sub>10</sub> reduction assays over 3 hours against *S. aureus* (SA) and *P. aeruginosa* (PA).

**Results / Discussion:** Collagen/ORC reduced both Elastase and MMP-9 activity significantly more than all other dressings tested (p<0.05)

The collagen/ORC dressing activity was bactericidal against SA, achieving a 4.8 log<sub>10</sub> unit reduction within 3 hours, compared to ≤2.1 log<sub>10</sub> unit reductions for all other dressings tested. Collagen/ORC was bacteriostatic against PA, leading to a 2.1 log<sub>10</sub> unit reduction within 3 hours. This was the largest reduction observed against PA compared to all other dressings tested.

**Conclusion:** These results suggest that in vitro, the combination of collagen/ORC is more effective than materials such as ECM and collagen-only dressings, in terms of reducing protease activity and bacterial bioburden.

## [EP105] A SILICONE BASED WOUND CONTACT LAYER EFFICIENTLY SUPPORTS WOUND HEALING

Dorte Schwanke<sup>1</sup>, Hamburg, Germany , Anja Suess-Burghart<sup>2</sup>, Munich, Germany , Karin Zomer<sup>3</sup>, Emmen, Netherlands

<sup>1</sup>*Bsn Medical GmbH*

<sup>2</sup>*Städtisches Klinikum München Schwabing GmbH, Germany*

<sup>3</sup>*Scheper Ziekenhuis, Netherlands*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** Primary contact dressings that allow removal of exudate whilst protecting the wound bed during dressing changes are a key tool in wound management. To determine whether a wound contact layer based on silicone\* provides this desirable benefits in daily clinical practice a multi-centre clinical evaluation was performed.

**Method:** 40 wounds of a variety of aetiologies were managed with a wound contact layer based on silicone\* and secondary dressings in different centres across Germany and the Netherlands. Permeability to exudate, non-adherence to the wound bed, pain at dressing change and overall performance were evaluated. The condition of the wound bed, wound surface area and levels of exudate were recorded, along with the condition of the wound edge and peri-wound skin.

**Results / Discussion:** Wounds managed with the silicone based wound contact layer \* showed an increase in complete granulation from 12.5% to 26.5% and in partial or complete epithelialisation from 35% to 82.4%. The wound contact layer was assessed as non-adherent to the wound in 91.2% of cases. 93.3% of dressing changes (N= 104) were deemed pain free. Wound surface area decreased by a mean of 19.9%. Permeability to wound exudate and dressing performance were good in 82.4% of cases.

**Conclusion:** Treatment with the wound contact layer based on silicone\* shows great advantages for the patient and user in daily clinical life. It pushes wound healing by protecting newly formed tissue and supporting efficiently the progress of wound healing . Ease of use and atraumatic dressing changes are convincing.

\* Cuticell Contact

## [EP106] A COMPARATIVE IN VITRO STUDY ASSESSING THE ANTIMICROBIAL ACTIVITY OF SEVERAL FOAM DRESSINGS

Alexis Joseph<sup>1</sup>, Winsford, United Kingdom , Emma Bhatt<sup>2</sup>, Winsford, United Kingdom

<sup>1</sup>Advanced Medical Solutions; R&d

<sup>2</sup>Advanced Medical Solutions; Premier Park

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** Foam dressings have become an increasingly effective wound care product, particularly on highly exuding wounds. The addition of an antimicrobial agent e.g. PHMB, Silver, incorporated into the dressing enables the product to effectively eradicate common wound isolates, including *Pseudomonas aeruginosa* and *Staphylococcus aureus*. The following study aims to assess the antimicrobial activity of several PHMB and Silver containing foam dressings using a simulated wound fluid model.

**Method:** An in-vitro simulated wound fluid model was performed, which enables a known concentration of the challenge organism to be inoculated into a volume of simulated wound fluid (SWF), containing the test dressing. The antimicrobial efficacy of each dressing was assessed by removing a quantity of the inoculated SWF and performing total viable counts (TVCs) in order to determine the log reduction from the initial inoculum concentration at certain time points, over a 7 day test period.

**Results / Discussion:** The data generated indicates that the antimicrobial efficacy of the foam dressings can differ with regards to the antimicrobial agent i.e. PHMB, Silver within the dressing.

**Conclusion:** The comparative study has provided useful information on the antimicrobial activity of several foam dressings against 3 common wound isolates, which is important when deciding on an effective and appropriate wound care treatment.

**[EP107] A RANDOMISED CONTROLLED STUDY EVALUATING THE CLINICAL BENEFITS OF A CELLULOSE ACETATE MESH COATED WITH A SOFT SILICONE IN THE MANAGEMENT OF ACUTE WOUNDS**

Caroline Hoss<sup>1</sup>, Paris, France , Anne-Claire Pierrefeu-Lagrange<sup>2</sup>, Lyon, France , Karine Mari<sup>3</sup>, Lyons, France

<sup>1</sup>*Systagenix, An Acelity Company*

<sup>2</sup>*Reconstructive and Aesthetic Plastic Surgery,*

<sup>3</sup>*Biostatisticienne Rcts*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** Dressings are considered the mainstay for wound management; however, adherence of dressings to the wound or periwound is common and can cause pain and trauma at removal. Types of dressing-related trauma include, skin reactions, adherence to the wound, skin stripping, and maceration. These are recognised as a clinical and economic burden to patients and health care providers. The development of atraumatic wound contact layers, as an interface between the wound and the secondary dressing have been a major advancement in reducing these issues.

**Method:** A 70 patient, multi-centre randomised controlled study was performed in traumatic, post-surgical and burn wounds, where the majority of dressing-related issues are reported. We compared the benefits of a cellulose acetate mesh coated with a soft silicone against the current market leader. The wounds were monitored over 3 weeks with weekly assessments for dressing adherence to the wound bed, effect on wound healing measured by % re-epithelisation and pain (VAS).

**Results / Discussion:** In this study, the primary and secondary objectives were achieved; 96.77% of patients in test group and 90.63% in the benchmark comparator group (ns) did not experience any adherence issues during any assessment. The average time to complete re-epithelialization was 16 days in the test group versus 15 days in the comparator group (ns), and the tolerance of both products was excellent.

**Conclusion:** This clinical study demonstrates that a cellulose acetate mesh coated with a soft silicone performed as well as the current market leader wound contact layer, and was clinically efficacious in reducing dressing adherence-related trauma issues.



**[EP108] OBSERVATIONAL STUDY: AN INTELLIGENT ANSWER TO ACCELERATE THE EPITHELISATION PHASE USING A SILICONE DRESSING WITH POLYURETHANE SUPPORT. RATIONALE OF USE.**

Ornella Forma<sup>1</sup>, Milano, Italy , Teresita Gaiani<sup>1</sup>, Milano, Italy , Umberto Cazzaro<sup>1</sup>, Milano, Italy

<sup>1</sup>*Ospedale San Raffaele; Vulnology*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** The available literature documents that the epithelisation phase is in absolute the most delicate and longest phase of the whole treatment; the aim is therefore to try to progress the epithelisation phase protecting at the same time the wound bed, thus inducing quicker healing times.

We considered and documented:

- The acceleration of the epithelisation phase using a silicone dressing with polyurethane support applied on both the wound and the peri-wound skin
- The ease of application, the dressing's mouldability on the wound and peri-wound site, the ease of removal
- The length of time that can elapse between dressing changes
- The patients response to the treatment

**Method:** 20 patients were enrolled for the study; all wounds (of different etiology) were in the superficial phase. We used a Data Collection Form and documented with photographs all the details of activating the epithelisation phase.

**Results / Discussion:** The data showed that if the dressing remains *in situ* up to 14 days, there is an acceleration of the epithelisation phase.

The patients' point of view: the dressing acts as a second skin and does not induce any uncomfortable or painful symptoms.

**Conclusion:** As an alternative to new generation, interactive dressings, this dressing significantly accelerates the epithelisation phase, leading in 3 weeks to the closure of 70% of the wound.

## [EP109] DEBRIDEMENT WITH 100% MANUKA HONEY DRESSINGS IN LOWER EXTREMITY WOUNDS

nuria serra perucho<sup>1</sup>, Barcelona, Spain

<sup>1</sup>*Angiogrup; Vascular Surgery*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** To evaluate the debriding activity of manuka honey dressings in different wound aetiologies.

**Method:** 12 cases studies in patients with diabetic ulcers with slough and signs of infection, traumatic ulcers in patient with chronic venous insufficiency with slough and hematoma, patient with trans metatarsal amputation with a stump had necrotic tissue and slough and patient with ischemic ulcer had necrotic tissue and slough and erythematous lesion with signs of allergy.

Dressings impregnated with 100% manuka honey in gel and tulle \* were applied on wounds for debridement of necrotic and devitalized tissue, slough and hematoma. Protective cream were applied to the surrounding skin.

**Results / Discussion:** The debridement of the diabetic ulcers was achieved between 4-6 weeks. Traumatic ulcers after 15 days the wound bed was clean and with granulation. The ischemic lesion achieved granulation tissue at 3 weeks and 50% of the wound was epithelialized. Stump wound took 6 weeks for debridement and 30% healing was achieved.

No ulcers had worsened or had shown signs of infection.

**Conclusion:** Dressings impregnated with 100% manuka honey have demonstrated the effectiveness in the debridement and removal of necrotic and devitalized tissue.

\* Activon Tube and Activon Tulle

## [EP110] COMBINED SELF-ADHERENT ANTIMICROBIAL WOUND DRESSING IN TREATMENT OF LEG ULCERS

Lubos Sobotka<sup>1</sup>, Hradec Kralove, Czech Republic , Jitka Borkovcova<sup>2</sup>, Hradec kralove, Czech Republic , Jitka Koubova<sup>2</sup>, Hradec Kralove, Czech Republic

<sup>1</sup>Medical Faculty, Charles University in Prague; 3rd Department of Medicine

<sup>2</sup>Faculty Hospital; 3rd Department of Medicine

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** The positive effect of negative pressure can be partially explained by better drainage of the wound bed. The newly developed wound dressing was designed to combine the drainage effect with hydrophilic and wound healing influence of hyaluronic acid and antimicrobial effect of octenidine. The aim of present study was to assess the effect of this bandage on healing of venous ulcers on lower extremities.

**Method:** The effect of new hyaluronan-octenidine (HO) wound dressing was studied in 24 subjects with non-healing venous ulcers during 6 weeks period. The HO dressing was placed directly to the wound bed and then it was covered by several layers of sterile gauze. The bandage was controlled daily and it was changed when loose adherence to wound was recorded. The wound diameter, and characteristics as well as dressing frequency and length of treatment were recorded. The wound pictures were taken by digital camera\* every second week.

**Results / Discussion:** The new HO based wound dressing was changed  $2.7 \pm 0.5$  times per week. It adhered sufficiently to wound bed which was sign of good drainage. Fourteen wounds healed completely before the end of the study period ( $4.1 \pm 0.9$  weeks) whereas the area of 10 wounds decreased by  $54 \pm 25\%$ ; no indicators of active wound infection were apparent. No side effects were recorded during the study.

**Conclusion:** The new adherent wound dressing based on improved drainage system and combination of hyaluronan and octenidine is promising method for leg ulcers healing.

This study was supported the program PRVOUK P37/12 Czech Republic

\*(Camedia - Olympus)

**[EP111] RESULTS OF A NATIONAL MULTICENTER TRIAL WITH AN ADHESIVE NEUTRAL FOAM DRESSING WITH TLC (TECHNOLOGY LIPIDO-COLLOID) AND A SILICONE BORDER**

Dimitrios Tsantilas<sup>1</sup>, Augsburg, Germany , Winfried Keuthage<sup>2</sup>, Münster, Germany , Patricia Wilken<sup>3</sup>, Sulzbach, Germany , Udo Moller<sup>4</sup>, Sulzbach, Germany

<sup>1</sup>*Praxis*

<sup>2</sup>*Diabetes Praxis Muenster*

<sup>3</sup>*Urgo Medical; Managerin Key Opinion Leader&market Access D/A/Ch*

<sup>4</sup>*Urgo GmbH*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** Our trial aimed to demonstrate the efficacy and tolerance of a new dressing in outpatients with all type of acute and chronic wounds.

**Method:** A prospective, open label, non-interventional multicentre trial was carried out. The main evaluation criterion was the percentage of healed wounds after 8 weeks. Secondary criteria were the evolution of wound surface area, tolerance, acceptance and handling of the dressing and pain on dressing removal.

**Results / Discussion:** We report on the results based on 991 patients. 56,9 % of all wounds healed with a higher healing rate at acute wounds (69,0 %) than chronic wounds (41,9 %). Local tolerance was rated as very good (84 %) or good (15 %) and the physicians judged the dressing as "extremely useful" (69 %) and "useful" (25 %) in 94 % of the cases. The acceptance/handling was rated very good (76 % / 69 %) or good (23 % / 28 %). The dressing change was reported as painless in 77 % and with mild, short pain in 20 % of the cases. 66 % of patients showed less pain whilst wearing the dressing compared to the dressing used before, 34 % rated the pain as identical.

**Conclusion:** This trial showed good results in a high number of outpatients presenting acute and chronic wounds.

**[EP112] A MOISTURE-RETENTIVE NON-TRAUMATIC DRESSING\* EXERTS A STRONG ANTIBACTERIAL EFFECT ON PSEUDOMONAS AERUGINOSA AND MRSA IN VITRO**

Cornelia Wiegand<sup>1</sup>, Jena, Germany , Denise Reichmann<sup>2</sup>, Jena, Germany , André Riesinger<sup>3</sup>, Senden, Germany , U.-C. Hipler<sup>1</sup>, Jena, Germany

<sup>1</sup>University Medical Center Jena; Department of Dermatology

<sup>2</sup>University Hospital Center Jena, Department of Dermatology

<sup>3</sup>Sorbion GmbH & Co.Kg

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** Dressings demonstrating a strong and prolonged ability to bind and immobilize microbes could be changed less frequently, saving time and costs. Therefore, dressings have to be able to handle an excess amount of liquid. It has been proposed and demonstrated that moisture-retentive dressings containing hydrokinetic fibers efficiently remove bacteria from the wound bed. Here, we evaluated the antibacterial activity of such a moisture-retentive non-traumatic dressing\* against *Pseudomonas aeruginosa* and MRSA (methicillin-resistant *Staphylococcus aureus*) according to the direct contact test JIS L 1902.

**Method:** Following the JIS L 1902, the moisture-retentive non-traumatic dressings\* were incubated with the pathogen up to 24h at 37°C under aerobic condition.

**Results / Discussion:** The antibacterial effect achieved by the moisture-retentive non-traumatic dressing\* against *P.aeruginosa* and MRSA could be rated as a strong antibacterial activity according to JIS L 1902:2002 with a log reduction > 3. It was demonstrated that a complete inhibition (100%) of *P.aeruginosa* growth could be achieved *in vitro*. In addition, the growth of MRSA was significantly reduced by more than 40%.

**Conclusion:** The moisture-retentive non-traumatic dressing\* demonstrates a strong antibacterial activity *in vitro*. These experiments impressively showed the antimicrobial mechanism of the moisture-retentive non-traumatic dressing\*: rapid up-take of fluid, binding of microorganisms to the fiber core, and retention of the bacteria inside the dressing. Hence, it can be expected that this dressing\* will exert beneficial effects on wound healing not solely by exudate up-take, provision of moist conditions, and binding of inflammatory mediators but also by reduction of the bio-burden.

\*Sorbion sana gentle (Sorbion GmbH & Co. KG)

**[EP113] DETERMINATION OF THE ANTIBACTERIAL EFFECT OF AN ATRAUMATIC 3D WOUND CONTACT LAYER\* AGAINST STAPHYLOCOCCUS AUREUS AND MRSA FOLLOWING THE JIS L 1902**

Cornelia Wiegand<sup>1</sup>, Jena, Germany , Denise Reichmann<sup>2</sup>, Jena, Germany , André Riesinger<sup>3</sup>, Senden, Germany , U.-C. Hipler<sup>1</sup>, Jena, Germany

<sup>1</sup>University Medical Center Jena; Department of Dermatology

<sup>2</sup>University Hospital Center Jena, Department of Dermatology

<sup>3</sup>Sorbion GmbH & Co.Kg

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** The antibacterial activity of dressings is mostly evaluated using in vitro tests which allow comparison of the effects on microorganisms. Challenge tests, like JIS L 1902 analyse the antimicrobial efficacy of the material after direct contact with the microorganisms over a respective time period. They further allow a quantitative evaluation of antimicrobial activity as results are retrieved as inhibition of microbial growth in log-scale. Most commonly, *Staphylococcus aureus* is used as model organisms in this test. However, methicillin-resistant *Staphylococcus aureus* (*MRSA*) is increasingly isolated from chronic wounds. Here, we have analysed the effect of an atraumatic 3D wound contact layer\* on both, *S.aureus* and *MRSA* following the JIS L 1902.

**Method:** 100cm<sup>2</sup>-samples of the atraumatic 3D wound contact layer\* were used. Polyester was used as growth control. The samples were incubated with the pathogens up to 24h at 37°C under aerobic conditions.

**Results / Discussion:** The atraumatic 3D wound contact layer\* was able to reduce the growth of *S.aureus* and exhibited an inhibition of microbial growth of approx. 43 %. Moreover, it was able to significantly inhibit *MRSA* growth up to almost 65%. The antibacterial effect achieved by the atraumatic 3D wound contact layer\* against both, *S.aureus* and *MRSA* could be rated as a strong antibacterial activity according to JIS L 1902 (log reduction > 3).

**Conclusion:** The atraumatic 3D wound contact layer\* exhibits a distinct antibacterial activity *in vitro*. Its use should therefore help to prevent wound infections. In addition, it can be beneficial in treatment of *MRSA* contaminated wounds.

\*Sorbion contact (Sorbion GmbH & Co. KG)

**[EP114] A REVIEW OF THE IN VITRO AND CLINICAL EVIDENCE FOR USE OF A SILVER-IMPREGNATED ACTIVATED CHARCOAL DRESSING IN A RANGE OF WOUND TYPES**

Kyle Turton<sup>1</sup>, Gargrave, United Kingdom , Katie Bourdillon<sup>1</sup>, Gargrave, United Kingdom , Breda Cullen<sup>2</sup>, North Yorkshire, United Kingdom

<sup>1</sup>*Systagenix Wound Management*

<sup>2</sup>*Systagenix, An Acelity Company; Research and Development*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** The malodour associated with a wide range of chronic wounds has been shown to significantly impact a patient's quality of life.<sup>1,2</sup> Silver impregnated activated charcoal dressings (SIAC) are comprised of activated charcoal cloth impregnated with silver, within a nylon sleeve. When applied to wounds, the activated charcoal absorbs bacteria and volatiles, while silver in the cloth inactivates bacteria.<sup>3,4</sup> A review of the available in vitro and clinical data has been conducted to demonstrate the ability of a silver-impregnated activated charcoal dressings\* (SIAC) to manage infection and malodour and progress a wide range of wound types.

**Method:** A review of the clinical evidence available has been conducted and multiple clinical studies have been published demonstrating the efficacy of SIAC dressings. In addition, in vitro studies investigating the ability of SIAC to reduce bacterial populations against a panel of 10 facultative and obligate anaerobes by triplicate log<sub>10</sub> reduction assays has been conducted.

**Results / Discussion:** In vitro test results showed that SIAC achieved a >5 log<sub>10</sub> reduction in total viable count of all organisms challenged within 24 hours. In the most recent case study series reviewed, SIAC was shown to have efficacy in reducing wound malodour and bioburden in a range of wounds (chronic and surgical) including friable or overgranulated tissues, percutaneous endoscopic gastronomy tubes (PEG sites), intertrigo and necrotic digits.<sup>5</sup>

**Conclusion:** The evidence presented, which is consistent with previously reported data, demonstrates the ability of SIAC dressings to reduce bioburden, wound malodour and progress a range of difficult to heal niche wounds.

\*ACTISORB Silver 220, Systagenix UK

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## [EP115] IMPROVING EFFICIENCY IN DRESSING PRACTICE THROUGH THE INTRODUCTION OF A FOAM DRESSING

Alistair Bielby<sup>1</sup>, Hull, United Kingdom , Richard Searle<sup>2</sup>, Hull, United Kingdom

<sup>1</sup>*Freelance Clinical Project Manager; Smith & Nephew*

<sup>2</sup>*Smith & Nephew Medical Ltd*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Introduction:** Demand for resources in wound care will continue to increase, and it is unlikely that supply will keep pace. Releasing resources is therefore essential to improve the efficiency and sustainability of services.

The introduction of patient-centered innovative products designed to facilitate resource release can potentially be part of the solution, and real-world evaluations can be used to measure changes in resource utilization. For example, several real-world evaluations of foam dressings with discretion layers and visual change indicators have recently been published. The results of these real-world evaluations have been reviewed and summarized, and conclusions drawn.

**Method:** Published articles and conference proceedings relating to an advanced foam dressing with a discretion layer and visual change indicator were reviewed and the results summarized.

**Results / Discussion:** Three articles described the introduction of the product into clinical practice in three community healthcare providers in the UK. They reported wound characteristics and details of clinical practice such as frequency of dressing change before and after the implementation of the new product. From this information, estimates of potential changes in nursing resource were made. In total the three evaluations included 186 wounds, and each evaluation demonstrated a reduction in nursing resources following the introduction of the new dressing.

**Conclusion:** An increasing body of evidence exists that demonstrates that resources can be released through the use of foam dressings with discretion layers and visual dressing change indicators, combined with changes in practice.

## [EP116] A PROACTIVE APPROACH TO WOUND MANAGEMENT

Lorraine Grothier<sup>1</sup>, Spital Road Maldon, ESSEX CM9 6EG, United Kingdom

<sup>1</sup>*Tissue Viability Centre St Peters Hospital*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** To assess whether a proactive approach could optimise wound healing rates thus ensure effective wound management and optimum allocation of wound care resources.

**Method:** Recruit 24 patients previously assessed as non-healing and met the inclusion criteria. These patients were commenced on a collagen, oxidised regenerated cellulose (ORC) and silver-ORC dressing in accordance with a locally designed clinical pathway. Patients were monitored on a weekly basis for 12 weeks or until healed or withdrawn from the study. At four-week intervals, wounds were measured using a measurement device. Total surface area and percentage reduction in wound size was calculated, previous studies have indicated 40% reduction in wound size in 4 weeks is indicative of wound healing\*.

**Results / Discussion:** Provisional results (based on sixteen patients) indicate improved healing rates. Average reduction in wound size in four weeks was 40% (range from 2% - 40%) this increased to 60% if non-responders were omitted from the analysis. Wound healing was achieved in 2 patients by week 5, another 4 patients by week 8 and a further 3 patients by week 12. Remaining patients are on-going.

**Conclusion:** Community nursing numbers have significantly declined over the past 10 year and with an ever-increasing demand on community services, it is imperative that specialist wound care services drive efficient clinical practices through improved clinical outcomes and optimised resource allocation. Provisional results indicate that using a collagen, ORC and silver-ORC in conjunction with an appropriate clinical pathway can promote healing within non-healing chronic wounds.

Reference:

\*Flanagan, M, Improving accuracy of wound measurement in clinical practice.  
Ostomy/wound Management 2003, 49(10) 28-40

## [EP117] COMPLEX WOUNDS AND BIOFILM: A NEW DRESSING SOLUTION

Isabelle Fromantin<sup>1</sup>, Paris, France , Marguerite Nicodeme<sup>1</sup>, Paris, France , Irene Kriegel<sup>1</sup>, Paris, France

<sup>1</sup>Curie Institute

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** The wound healing process may be delayed by many factors including infection, the presence of biofilm or too many MMPs. To date, no dressings have been able today to act simultaneously on these factors. Recently a next-generation antimicrobial wound dressing (NGAD) has been designed for this purpose. The aim of this study was to evaluate this dressing on a case series of patients with complex wounds.

**Method:** This clinical evaluation (> 1 week) involved 11 patients: 7 with wounds which can heal, 3 “no healing wounds” and 1 complex wound. The NGAD was used after wounds usual care and eventually associated with other type of cover dressings. Clinical data were collected every week on case report form by wound unit.

**Results / Discussion:** Wounds with healing objective: at day 7, after use of the NGAD, 5 wounds among 7 were improved with a reduction of the wound surface. According to the colorimetric scale, 80% of red color (proliferation) and 9 % of pink color (epidermisation) were observed. The infection signs were also very improved. No slime was observable.

Complex wounds with symptoms treatment objective: Wounds were mostly covered by necrosis and exudate. The NGAD dressing used in replacement of CMC hydrofiber dressing demonstrates no additional improvement of symptoms management except a reduction of the odor intensity.

In one case, the use of the NGAD permits to enhance the healing.

**Conclusion:** The benefits of this NGAD were observed in wounds with healing objective. Proliferation tissue development and anti-biofilm potential were demonstrated.

**[EP118] EFFECTIVENESS OF A SILICONE FOAM DRESSING\* ON WOUND HEALING AND QUALITY OF LIFE IN PATIENTS WITH VENOUS ULCER**

Pere Coca<sup>1</sup>, Sant Boi de Llobregat (Barcelona), Spain , Josep Gine<sup>2</sup>, Martorell (Barcelona), Spain , Merce Girona<sup>3</sup>, L'Hospitalet de Llobregat (Barcelona), Spain , Carmen Marquilles<sup>4</sup>, Lleida, Spain , Emilia Mateo Marin<sup>5</sup>, Barcelona, Spain , Estrella Mesa Garrido<sup>6</sup>, Valls (Tarragona), Spain , Maria Jose Pujalte<sup>7</sup>, Barcelona, Spain , Pilar Tomàs Igual<sup>8</sup>, Sabadell (Barcelona), Spain

<sup>1</sup>*Parc Sanitari Sant Joan de Déu; Geriatrics*

<sup>2</sup>*Hospital Sagrat Cor, Hermanas Hospitalarias de Martorell*

<sup>3</sup>*Hospital Universitario de Bellvitge*

<sup>4</sup>*Centro de Salut Bordeta-Magraners*

<sup>5</sup>*Hospital Universitario Vall D'hebron*

<sup>6</sup>*Pius Hospital de Valls*

<sup>7</sup>*Parc Sanitari Pere Virgili*

<sup>8</sup>*Hospital Parc Taulí*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** To assess the effectiveness on wound progression and quality of life in patients with venous ulcer treated with a silicone foam dressing.

**Method:** A multicentre, descriptive case series was performed on 10 patients. The inclusion criteria were presenting venous ulcer and being over 18 years old; the exclusion criteria were hypersensitivity/allergy to any dressing component, vascular ulcers with infection, absent pulse or diabetic foot, pressure ulcer and/or cognitive impairment. Patients were treated with a silicone foam dressing for 8 weeks. Wound progression, regarding the size, depth, edges, tissue type exudate and infection/inflammation signs, was evaluated by the Resvech 2.0. scale, and quality of life by the Charing Cross Venous Ulcer Questionnaire.

**Results / Discussion:** All patients treated with the silicone foam dressing showed a decrease in Resvech 2.0. scale, between 2 and 7 points, during the 8 weeks of treatment, indicating a favourable wound progression. A reduction of the size and depth wound were observed in 9 and in 7 of the 10 patients, respectively. The type of tissue in wound bed improved in 8 of the 10 patients. Related to edges, tissue type, exudate and infection/inflammation patients showed no differences or improved. After 8 weeks of treatment, quality of life improved in all patients evaluated, with the exception of one case which declined slightly.

**Conclusion:** In this case series use of the silicone foam dressing for 8 weeks supported favourable wound progression and increased patient's quality of life.

\*Biatain<sup>®</sup> Silicone

## [EP119] KERATIN GEL IN THE MANAGEMENT OF CHILDREN WITH EPIDERMOLYSIS BULLOSA

Jacqueline Denyer<sup>1</sup>, London, United Kingdom

<sup>1</sup>*Great Ormond Street Hospital*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** To assess the efficacy of keratin gel in the management of wounds in children with epidermolysis bullosa (EB).

**Method:** 18 children with epidermolysis bullosa aged between 1 and 16 years presenting with blisters or chronic wounds were selected for the study. Evaluation of the gel included:

Aid to healing

Be atraumatic

Children were encouraged to keep their current dressing regimen whilst using the gel. Gel was used daily for 4 weeks.

**Results / Discussion:** Improvement was noted in the healing of wounds and blister sites in the majority of those using the gel. This was true for all types of EB, with the most improvement noted in those with chronic wounds in severe dystrophic EB.

7 children experienced pain on application. Diluting the gel with a bland emollient, or antimicrobial if colonization was suspected, alleviated this.

Keratin has been shown to enhance rates of healing by increasing the rate of proliferation and migration of keratinocyte cells. The lack of antimicrobial properties in the gel when applied to colonized wounds requires addition of other agents.

**Conclusion:** Keratin is a useful addition to our EB formulary. Further work needs to be done but current recommendations are for blister sites and management of chronic wounds.

## [EP120] THE EFFECT OF NEW SELF-ADHERENT AND ANTIMICROBIAL WOUND DRESSING ON AUTOLOGUS SKIN TRANSPLANTATION

Lubos Sobotka<sup>1</sup>, Hradec Kralove, Czech Republic , Igor Slaninka<sup>2</sup>, Hradec Kralove, Czech Republic , Frantisek Hosek<sup>3</sup>, Hradec Kralove, Czech Republic

<sup>1</sup>Medical Faculty, Charles University in Prague; 3rd Department of Medicine

<sup>2</sup>Medical Faculty, Charles University; Department of Surgery

<sup>3</sup>Faculty Hospital; Department of Surgery

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** The negative pressure therapy has been shown to promote skin adherence after autologous skin grafting (ASG). This effect can be due to better drainage of the wound bed. The newly developed wound dressing combines the drainage effect of bandage bulk with hydrophilic and wound healing impact of hyaluronic acid and antimicrobial effect of octenidine (HO dressing). The aim of present study was to acquire the first experience with this dressing in the group of difficult to heal patients treated by ASG.

**Method:** Ten subjects with chronic venous leg ulcers unsuccessfully treated during period longer than one year were included to the study. After wound bed preparation ASG was performed. The first postoperative day the new HO dressing was placed directly to the grafted area and covered by several layers of sterile gauze. The bandage was controlled daily and it was exchanged 2-3 times a week. The wound diameter, and amount of graft take was recorded. The wound pictures were taken by digital camera\* each second week.

**Results / Discussion:** Final graft adherence two weeks ranged from 85 to 99% (mean  $93 \pm 5.2$ , median 96%) whole transplanted area was healed within  $14 \pm 7.5$  days. This favorable effect was apparent in spite of the fact that all patients were ineffectively treated more than one year before ASG.

**Conclusion:** The new adherent wound dressing based on improved drainage system and combination of hyaluronan and octenidine is promising method for the autologous skin grafting. However, our result should be confirmed in prospective randomized study.

This study was supported the program PRVOUK P37/12 Czech Republic

\*Camedia - Olympus

## [EP121] A CONTROLLED STUDY EVALUATION OF NEGATIVELY CHARGED MICROSPHERES IN WOUND TREATMENT

Aharon Wanszelbaum<sup>1</sup>, Jerusalem, Israel

<sup>1</sup>*Meuhedet Health Fund; Wound Clinic*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** Negative charged microspheres (NCM\*) seemed us a promising technology to reboot the healing process of stalled wounds at inflammatory or granulation stage so we decided to evaluate its efficiency.

**Method:** 11 patients with 12 stalled wounds despite a standard of care treatment were enrolled after informed and signed consent, 7 men-4 women, age 41-87 (mean 62.4). 6 wounds were venous, 4 post traumatic, 2 with multiple pathology and 1 diabetic. None had macroangiopathy. 5 had exposed tendons.

As all had no longer improving wounds, the treated group was also the control group. The NCM was disposed once/twice a day in the wound that was covered by a simple gauze.

When necessary, NCM was combined with other dressings and used by 2 days twice a week. An evaluation was performed every 2 weeks following a scale from 0 (no progress) to 5 (closure)

**Results / Discussion:** 9 wounds (8 patients) completely healed (75%), 1 improved significantly (graded 4 -8.3%), 1 mildly (graded 2-8.3%) and 1 did not move (8.3%). Time for complete healing was 7-38 weeks (mean: 14.9). Among the patients with exposed tendons 4 of 5 healed completely (80%). No complication occurred. The treatment was declared easy to use.

### **Conclusion:**

- -1: NCM is of great interest in stalled wounds as proven by the impressive good results (83%) albeit in most cases (66%) it has to be combined with other tools
- 2: We would recommend NCM as a first choice when tendon is exposed, albeit larger trials are needed to make it a standard of care in this indication

\*NCM is POLYHEAL

**[EP122] MECHANOTOPOGRAPHY AND BIOLOGICAL PROPERTIES OF NEW HISTOEQUIVALENT-BIOPLASTIC MATERIAL BASED**

Ilya Almazov<sup>1</sup>, Saint-Petersburg, Russian Federation , Evgeny Zinoviev<sup>2</sup>, St. Petersburg, Russian Federation , Ramil Rakhmatullin<sup>3</sup>, St. Petersburg, Russian Federation

<sup>1</sup>Northwest Medical University Named after I.I. Mechnikov; Plastic Surgery

<sup>2</sup>Military Medical Academy Named after S.M. Kirov

<sup>3</sup>Orenburg State University

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** Experimental study of ultrastructure and biological properties of histoequivalent-bioplastic material based on hyaluronic acid hydrocolloid.

**Method:** The object of study was histoequivalent-bioplastic material based on hyaluronic acid hydrocolloid\* produced photochemically\*\*. Samples of biomaterial were studied by scanning atomic force microscopy (AFM) in contact mode\*\*\*.

**Results / Discussion:** It has been ascertained that histoequivalent-bioplastic material based on hyaluronic acid hydrocolloid visualized by scanning AFM has a morphologically homogeneous surface, the surface ultrastructure being represented by globular formations of the same type. One of the most important characteristics of the images obtained by scanning AFM is 3D geometry of the objects which allows a detailed analysis of their morphology along the drawn profiles and performing morphometry. A possibility of adhesion and migration of somatic cells of epithelial tissues on the surface of bioplastic material based on hyaluronic acid hydrocolloid is determined, on the one hand, by its hydrophilic/hydrophobic properties; and, on the other hand, by microrelief. It is known that the fastening of fibroblasts and keratinocytes is more likely to occur on the surface of material having high surface energy, on a hydrophilic surface. At the same time, basic cellular processes (growth, differentiation, migration) are strongly affected by geometric and dimensional characteristics of the substrate relief.

**Conclusion:** Histoequivalent-bioplastic material based on hyaluronic acid polymer\* maintains the stability of morphological and mechanical parameters in response to wetting, which appears to be favourable for creating the optimal conditions of humid environment during adhesion and migration of mesenchymal stem cells.

\*G-Derm

\*\* RF patents No. 2425694, 2367476, 2458709, 2481127

\*\*\*Multimicroscope "SMM- 2000", Open Joint Stock Company OAO "Proton-miet", Russia)



## [EP123] OUR LAST CLINICAL EXPERIENCES WITH COMBINED MODERN WOUND DRESSINGS

Janja Nikolic<sup>1</sup>, Ljubljana, Slovenia , Adrijana Debelak<sup>1</sup>, Ljubljana, Slovenia , Kliment Dajoski<sup>2</sup>, Ljubljana, Slovenia ,  
Dragica Maja Smrke<sup>2</sup>, Ljubljana, Slovenia

<sup>1</sup>University Medical Center Ljubljana; Department of Surgical Infections

<sup>2</sup>Department of Surgical Infections, University Medical Center Ljubljana

Wednesday, May 13, 2015

E-poster session: Dressings 1

**AIM:** In our preliminary research we want to validate and discover all positive clinical effects on wound healing process of such kind of dressings. The dressing is consisting of two layers: patented matrix formulation combines calcium alginate and silver alginate with 10% of bonded water. In contact with exudate, the alginate matrix forms a soft gel allowing the liberation of silver ions.

**METHOD:** The study included 12 male and 16 female patients which were treated clinically in the period of 6 months. In sample were patients with different pathological problems: diabetic foot, pressure ulcers and leg ulcers. All were delay healing infected wounds and moderately to heavily exuding wounds. All of the wounds have been cleaned with antiseptic solutions. Wound dressing were used up in period of 2-4 days. We have been taking special care of the skin on the wounds edges consistently, which were often damaged and macerated.

**RESULTS:** In 24 cases the wounds were healed in the period of 6 months.

**CONCLUSION:** Dressing is a technologically advanced wound dressing that incorporates the barrier effectiveness of ionic silver with the absorption capabilities of calcium alginate and polyurethane foam. These positive characteristics of combined wound dressings we confirm as effective.

For successful wound healing are very important an appropriate wound bad preparation, carefully considered wound dressing selection, long lasting protection of skin in surrounding area of chonical wounds.

**[EP124] CASE SERIES FOR THE MANAGEMENT OF EXUDATE AND THE EVALUATION OF THE LESION THROUGH THE USE TWO TYPES OF TOPICAL TREATMENT: ALGINATE WITH POLYURETANE FOAM VERSUS ALGINATE AND COTTON GAUZE**

Sara Sandroni<sup>1</sup>, Arezzo, Italy

<sup>1</sup>*Azienda Usl8 Arezzo*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** Defined as the treatment of chronic wounds through two types of treatment with combined advanced dressings can get benefits in terms of repair is woven the reduction of expenditure in terms of direct and indirect costs.

**Method:** A total of eight patients from two different home care nursing suffering from chronic wounds of all medical aetiologies located in all body. Experience of the treatment was recorded in pressure ulcers of 2°/3° with medium and high exudate. For the evaluation a questionnaire was filled out analysing patient history, inclusion characteristics of wound, and experience and assessment with the others dressing. One question about comfort was addressed to the patient. All parameters were registered on 5-point scales. Four patients were treated with calcium alginate and poliutethane foam and four with calcium alginate and cotton gauze. The evaluation was performed over two weeks or 10 dressing changes.

**Results / Discussion:** It was observed a reduction of the total wound area and the management of every amount of exudate is better. In the 100% of the cases treated with alginate and foam the perilesional skin had no maceration, the wounds had no signs of infection, the patients reported the dressing as more comfortable to wear. The presence of the foam allow an extension to exchange leading to a significant reduction in direct and indirect costs (table).

**Conclusion:** The union of two types of medication can manage better the exudate and then determines a reduction in the healing time also involves a reduction of the direct and indirect costs.

**[EP125] CASE SERIES OF A SUPERABSORBENT HYDROCAPILLARY DRESSING FOR THE TREATMENT OF VENOUS LEG ULCERS CONDUCTED ON 6 PATIENTS**

Sara Sandroni<sup>1</sup>, Arezzo, Italy

<sup>1</sup>*Azienda Usl8 Arezzo*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** To evaluate the effectiveness of a superabsorbent dressing in treating venous leg ulcers under compression, the patient compliance of the treatment, and the reduction of direct and indirect costs due to long-term permanence of the dressing in situ.

**Methods:** Selection of six patients with leg ulcers. The superabsorbent dressing has been tested with highly exuding wounds. Questionnaire of dressing evaluation filled in with patient history, inclusion criteria, wound assessment, experience with the dressing. One question addressed to the patient about the comfort of the dressing. All parameters evaluated on 5-point scales. Evaluation performed over four weeks or 5 dressing changes.

**Results:** In all cases, a reduction of the total wound area was observed, demonstrating the high transpiration capabilities and absorption of the dressing even under compression. In the 100% of the cases, the peri-wound skin didn't show any signs of maceration. No sign of infection registered. 100% of the patients did not report any discomfort while removing the dressing. 100% of the patients rated the dressing comfortable or very comfortable to wear. The dressing stayed in place 7 days on average.

**Conclusion:** The superabsorbent hydrocapillary dressing has high absorption and transpiration capabilities even under compression. The superabsorbent hydrocapillary dressing obtained high rate on all parameters. The patients evaluated positively the treatment and comfort of the dressing, respectively. The use of this dressing reduced the direct and indirect costs.

**[EP126] THE VULNERABLE PATIENT WITH HIGH RISK SKIN INTEGRITY – POSITIVE BENEFITS OF A LONG WEAR TIME NON ADHERENT CONTACT LAYER**

Sharon Bateman<sup>1</sup>, Middlesbrough, United Kingdom

<sup>1</sup>*James Cook University Hospital*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** Patients with chronic respiratory disease often present with complex wounds which require intense management over lengthy periods of time. Thus the ongoing exploration and evaluation of innovative products with an extensive wear time that meets the needs of this patient group is vital. This evaluation reviews the benefits of a contact layer within high risk groups who require an effective longer wear time contact layer.

**Method:** Within six weeks, 30 patients within a respiratory unit with wounds that required a non-adherent contact layer were recruited. Data was collected by a specialist in wound care/respiratory medicine using the nationally recognised wound care continuum. All wounds were evaluated in regards to product wear time, non adherence and atraumatic application/removal properties and monitored at 7 and 14 days.

**Results / Discussion:** The positive outcomes related to; wear time which met the 14 day and beyond wear time specification, non adherence to the wound bed inclusive of viscous haematomas and slough, atraumatic application and removal on friable vulnerable skin. All 30 patients were happy to continue to use the product and all involved clinicians stated that the product was simple to use, effective and they would use again.

**Conclusion:** The results of this evaluation indicate that this product met all expected outcomes. Although not within the primary objectives, all 30 wounds continued to heal, the product remained in place allowing the appropriate cleansing of the wound bed and surrounding tissue, reducing unnecessary wound bed disturbance, dressing changes and ultimately valuable resources such as clinicians' time and procurement of further products.

**[EP127] 'LETS IMPROVE THE HOLISTIC WOUND CARE EXPERIENCE' – THE INTEGRATION OF PRODUCT AND EDUCATION REGIMENS WITHIN EXUDING WOUNDS**

Sharon Bateman<sup>1</sup>, Middlesbrough, United Kingdom

<sup>1</sup>*James Cook University Hospital*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** This product review explores 150 ward-based patients presenting with acute and chronic exuding wounds; it evaluates the proposed benefits of a foam dressing alongside a pre-set education regimen for both the patient and clinician. The outcomes of the evaluation are exudate management, protection of the peri skin, atraumatic application and removal, non adherence and benefits of using information leaflet within the dressing regimen.

**Method:** A total of 150 patients, who were referred with exuding wounds, were recruited over four months. Monitoring was over a 28-day period or patient discharge if earlier. Data collection related to patient demographics, objectives of therapy, previous treatments used, wound status and patient/clinician experience of product and education leaflet. Both patient and clinician were asked the questions: 'What is your priority of management?' at day one, 'Would you wish to continue with this product and was the education leaflet helpful?'.

**Results / Discussion:** Results demonstrated positive endpoints: Exudate containment, moist wound bed maintenance, peri skin healing and protection, atraumatic application/removal. All 150 patients and clinicians said 'yes', they would continue with the product. All participants within the evaluation felt that the education leaflet and verbal explanation for product use and rationale was a welcome addition.

**Conclusion:** The implementation and evaluation of an absorbent foam product in conjunction with a patient tailored educational leaflet is a welcome addition to the ever changing wound care 'tool box', essential for tissue viability nurses and clinicians alike in the challenging arena of exudate management for both acute and chronic wounds.

**[EP128] THE USE OF ADJUNCT THERAPIES FOR CHRONIC WOUND MANAGEMENT IN OLDER ADULTS IN A TEACHING HOSPITAL**

Julie Jordan O'Brien<sup>1</sup>, Dublin, Ireland, Daragh Moneley<sup>2</sup>, Dublin, Ireland, Stuart Lee<sup>3</sup>, Dublin, Ireland

<sup>1</sup>*RCSI; School of Nursing*

<sup>2</sup>*Beaumont Hospital; Vascular*

<sup>3</sup>*Beaumont Hospital; Gerontology Dept*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** This study aimed to describe the use of adjunct therapies namely a high-powered parallel oriented fluid jet debridement instrument\*, Topical Honey and Negative Pressure Wound Therapy (NPWT) in wound management for patients >65 years in a large academic teaching hospital.

**Method:** A retrospective case series was conducted from January 2013 to May 2014 using patient medical records. Data on patient demographics, comorbidities and wound type were collated. Treatment modality was determined in a multidisciplinary team setting involving the tissue viability service, vascular and gerontology teams.

**Results / Discussion:** Data were available for 34 patients. Males predominated (91%, n=31), with diabetic foot ulcers accounting for 68% (n=23) of cases. Diabetes, underlying cardiovascular disease and smoking were identified as factors for poor wound healing (n=31). The high-powered parallel oriented fluid jet debridement instrument\* was used successfully for wound debridement in 20/23 patients (2 patients required amputation and another needed further surgical debridement). Topical Honey application was used successfully in 4 patients with venous leg ulcers to eradicate MRSA under compression therapy. NPWT was used to treat two Grade 4 sacral pressure ulcers (one of which required maggot therapy prior to commencing NPWT), 4 diabetic foot ulcers (all of whom received prior the high-powered parallel oriented fluid jet debridement instrument\*) and 1 dehisced abdominal wound.

**Conclusion:** Debridement is an essential component of wound management as it maximises the healing potential of remaining healthy tissue. The use and type of adjunct therapies depends on patient tolerance, anatomical location of wound and the extent of debridement required. This series demonstrated the effective use of adjunct therapies in an older population.

\*VersaJet hydrosurgery

**[EP129] VARIATIONS IN THE USE OF HYDROACTIVE WOUND DRESSINGS FOR LEG ULCERS IN GERMANY.**

Matthias Augustin<sup>1</sup>, HAMBURG, Germany , Kristina Heyer<sup>2</sup>, Hamburg, Germany , Kerstin Protz<sup>3</sup>, Hamburg, Germany , Lisa Goepel<sup>2</sup>, Hamburg, Germany

<sup>1</sup>*Institute for Health Services Research in Dermatology and Nursing; Comprehensive Wound Center*

<sup>2</sup>*University Medical Center Hamburg-Eppendorf; Institute for Health Services Research in Dermatology and Nursing (Ivdp)*

<sup>3</sup>*Institute for Health Services Research in Dermatology and Nursing; University Medical Center of Hamburg*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** Hydroactive wound dressings have been shown to be of great clinical value and effectiveness in chronic wounds. In many studies and some metaanalysis they were superior to conventional dressings. Use of dressings largely depends on the clinical situation and cost-effectiveness considerations. In most scenarios, hydroactive dressings being applied on the wound for several days were more efficient due to greater clinical effects and less utilization of staff. Little is known about the use of hydroactive versus conventional dressings in Germany.

**Method:** The prescription rates of wound material for leg ulcers identified by ICD-10 diagnosis were analyzed in a cohort of about 9 mio persons insured in a large German statutory health insurance (SHI). Ulcers were considered in active state when wound-specific treatments were prescribed repeatedly. Wound dressing material was identified by specific SHI medical device codes.

**Results / Discussion:** In 2012, 1.04% of n=9.109.732 insured persons had the diagnosis of a chronic wound (n=94,741), including 0.70% leg ulcers (n=63,768). Among the 61% of patients with leg ulcers and topical therapy, material in Sachsen (25%) and the lowest in Hamburg and Schleswig-Holstein (both less than 10%). The proportion of patients who had used hydroactive wound dressings in Hamburg (91.9%) corresponded well with data from a community-based study (88.6%), thus showing high validity of the sick fund data.

**Conclusion:** In Germany there are large variations of use of hydroactive wound dressings in leg ulcers with the highest rate in ulcers of arterial and mixed origin.

## [EP130] AN IN VITRO COMPARISON OF COMMERCIALY AVAILABLE ALGINATES

Thomas Lane<sup>1</sup>, North Yorkshire, United Kingdom , Daniel Parker<sup>1</sup>, North Yorkshire, United Kingdom , Michelle Delbono<sup>1</sup>, North Yorkshire, United Kingdom

<sup>1</sup>*Systagenix, An Acelity Company; Research and Development*

Wednesday, May 13, 2015

E-poster session: Dressings 1

**Aim:** Alginates are widely-used in the management of many chronic and acute wounds due to their exudate handling ability. This study aims to compare the performance of Alginate 1\* with other commercially available alginate dressings.

**Method:** The absorbency of the alginate dressings was tested in accordance with “Alginate Dressing”, p. 1706, British Pharmacopoeia 1993 (Addendum 1995). The tensile strength of both dry and wet dressings was also assessed. Samples of 20mm width were taken at 90° to each other from each dressing type and were subjected to a tensile force at a constant rate of extension until failure. The mean force at break was recorded for each direction from each dressing.

**Results / Discussion:** All dressings tested demonstrated absorbency > 12g/100cm<sup>2</sup> showing they can be classed as high absorbency dressings. Both the absorbency and the wet tensile strength of Alginate 1\* were significantly higher ( $p < 0.05$ ) than those of other commercially available alginate dressings.

**Conclusion:** All products evaluated in these studies demonstrated their suitability for use on moderate to highly exuding wounds due to their high absorbency. The results suggest that Alginate 1\* may be better suited for highly exuding wounds than the other products under test due to its significantly higher absorbency. The results also indicate that Alginate 1\* is more likely to allow intact removal due to its significantly higher wet tensile strength.

\* NU-DERM® Alginate