

[EP035] A FLUID HANDLING ASSESSMENT OF FOAM DRESSINGS

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Thursday, May 14, 2015

E-poster Session: Dressings 2

Aim: To assess the fluid handling characteristics of foam dressings in a variety of tests in order to understand their exudate handling capabilities.

Method: Four adhesive foam dressings were analysed in the study (A, B, C & D)*.

Absorptive characteristics of the dressings were determined by allowing absorption in an excess of Solution A (142mmol Sodium ions, 2.5mmol Calcium ions) for 30minutes at 37°C (n=3).

Fluid uptake was assessed by inverting a test tube with 10ml of Solution A onto the dressing surface and recording uptake time to the nearest second (n=2).

A WRAP¹ wound model assessed the behaviour of each dressing in a clinically relevant manner. The dressings were then assessed for fluid retention properties under simulation of approximately 30mmHg of pressure (n=3).

Results / Discussion: When tested to capacity, dressing A absorbed an average of 103.29g per dressing, B absorbed 33.6g per dressing, C absorbed 30.91g, and D absorbed 35.18g.

The fluid uptake test provided the following uptake timings- dressing A: 112 seconds, dressings B & C >5400seconds; dressing D: 23 seconds.

On WRAP model testing, of the 48ml of supplied fluid, only dressing A handled the entire volume. Dressing B was unable to absorb 1.6g, C did not absorb 13.79g and dressing D failed to absorb 11.96g. Following compression, dressing A retained 100% of the fluid absorbed, B retained 98%, C 89% and D 92%.

Conclusion: The fluid handling characteristics of a number of dressings were observed, demonstrating a range of performance in exudate management.

[EP036] IN-VITRO ASSESSMENT OF WOUND DRESSING BACTERIAL SEQUESTRATION

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Thursday, May 14, 2015

E-poster Session: Dressings 2

Aim: To test a selection of foam dressings for their ability to sequester bacteria through absorption and retention.

Method: A dressing (A) was tested for bacterial location following absorption of an overnight culture of MRSA. The dressing was dissected into its components, and processed in stomacher bags to remove the bacteria. Total viable cell counts were conducted to determine the bacterial concentration within each component.

Four dressings (A,B,C &D)* were tested for bacteria release upon compression. 35ml of Pseudomonas Aeruginosa culture at 153×10^6 CFU/ml was applied to each dressing, allowed to absorb and then left for a further 2 minutes. Each dressing was then compressed by hand until no further fluid was able to be removed. The fluid was collected and weighed. Total viable cell counts were conducted to determine bacteria concentration within the eluted fluid. This was then used to determine how much bacteria had been released from each dressing on compression.

Results / Discussion: Dressing A was shown to store 99.7% of MRSA absorbed within its highly retentive absorbent core and therefore away from the wound.

- Dressing A eluted 0.07g of fluid at 136×10^6 CFU/ml.
- Dressing B eluted 23.16g of fluid at 138×10^6 CFU/ml.
- Dressing C eluted 14.57g of fluid at 172×10^6 CFU/ml.
- Dressing D eluted 20.78g of fluid at 184×10^6 CFU/ml.”

Conclusion: Dressing A was shown to have the highest capability for retaining solutions containing bacteria and therefore storing bacteria away from a wound.

*Dressing A- KerraFoam Gentle Border (Crawford Healthcare); dressing B-Allevyn Gentle Border (Smith & Nephew); dressing C-Aquacel Foam (Convatec); dressing D- Mepilex Border (Mölnlycke Healthcare)

[EP037] EVALUATION OF THE BIOACTIVE DRESSING

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Thursday, May 14, 2015

E-poster Session: Dressings 2

Aim: Evaluation of effectiveness in terms of healing rate and healing time of a medical device class IIb, containing an active substance T-Lysyl used in bioactive dressing and associated with advanced medications, acting on the modulation of the inflammatory process associated to tissue regeneration.

Method: Were observed 20 patients suffering from pressure ulcers, treated for 28 days with a specific protocol formulated in which the cleansing with saline and / or detergent solution in use was followed by the application of a thin layer of the medical device on the bottom of the lesion, on the edge and on the periwound skin. As a secondary dressing you choose to use dressings used before the beginning of study.

Results / Discussion: All pressure ulcers treated showed a rapid cleansing of the bottom of the lesion and the early and uniform appearance of granulation tissue between 7 and 14 days, a rapid proliferation of the margins with centripetally re epithelialization, a reduction in the area of about 60% in the first 3 weeks, a good tolerability of the device by the patients and a reduction of pain.

Conclusion: The device containing T-Lysyl stimulates the regenerative processes with the specific activities to modulate the inflammatory process, to encourage better humidity of the lesion and to facilitate the migration and proliferation is blocking certain cell populations is encouraging the growth of fibroblasts with increased production, with rapid resolution times.

[EP038] CLINICAL EVALUATION OF A MEDICAL BIOACTIVE DEVICE IN THE TREATMENT OF SKIN WOUNDS

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E-poster Session: Dressings 2

Aim: Evaluation of the effectiveness of a medication (class II b) to the content of hyaluronic acid / salt of lysine, able to modulate the inflammatory process and stimulate tissue repair and tissue regeneration.

Method: The study enrolled 20 patients with acute or chronic wounds with different etiology, treated with the medical device as an adjunct in the management of wound care, in order to document the efficacy and tolerability. The observation period was 28 days, with a dressing's protocol according to the guidelines. A thin layer (2-3mm) of the device was applied on the lesion, on the edge and / or on the margin of the lesion and the surrounding skin, followed by the use of a secondary dressing already used previously, respecting the time of dressing change already set, both in the choice of a treatment with the advanced than with the traditional method.

Results / Discussion: Both in acute and chronic lesions, we noted an initial increased exudate, with subsequent normalization (sign of restoration of cell's "equilibrium"). At final follow-up (28 days), 7 of 8 acute injuries had healed, 1 showed epithelialization over 95%; all chronic lesions showed a good granulation tissue and reduction of the depth.

Conclusion: The medical device studied, in addition to modulate the inflammatory process, has demonstrated a capacity to stimulate a more rapid formation of granulation tissue as "center of regeneration", favoring the cell's migration and proliferation (growth of fibroblasts > 30%) and to speed the neoangiogenesis.

[EP039] 10 PATIENT CASE SERIES TO CONSIDER THE EFFICACY OF A 2 IN 1 DRESSING OF POLYURETHANE FOAM AND HYDROFIBER

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Thursday, May 14, 2015

E-poster Session: Dressings 2

Aim: To assess the effectiveness of using a polyurethane foam dressing with hydrofiber for moderate to highly exudating wounds. The objective of the study was to consider the foam for its ability to manage levels of exudate, patient comfort and frequency of dressing change.

Method: We completed a prospective observational study over a six week period between June and July 2014. Ten patients were included with a variety of chronic and acute wounds, six wounds were acute and four chronic.

Results / Discussion: Progress was monitored over the six week period using wound measurement, description of the wound bed, peri skin condition, exudate levels and patient comfort. All cases resulted in a visible decrease in exudate levels with a reduction in dressing changes and an increase in patient comfort. No maceration of surrounding skin was seen and no trauma to peri wound skin was noted. Eight of the ten wounds were fully healed within the six week period with the longest taking five weeks and the shortest taking just two. In the two cases that did not achieve full wound healing additional underlying disease processes were detected during the study, however they too benefited from a significant reduction in exudate levels.

Conclusion: The use of polyurethane foam with a hydrofiber improves the healing process by effectively controlling levels of exudate and increasing levels of patient comfort. Most notably the study revealed a significant reduction in the frequency of dressing changes and nursing time required.

[EP040] EASY WOUNDCLEANING - EFFICIENT WOUNDHEALING

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E-poster Session: Dressings 2

Easy woundcleaning - efficient in wundhealing

Aim: In a rehabilitation setting is a sufficient woundhealing very important. Patient with thiersch, meshgraft and other autographs must have a complete woundhealing to take place in the whole therapy of rehabilitation. With e sterile wound cleaning system(*) this process can be faster and more efficient.

Method: Patientst with thiersch, meshgraft or any autographs receive a woundcare with sterile woundcleaning system as soon as possible. In this way rests of blood, fibrin, biofilm and rests of epidermies at the autograph can be removed. The therapy is more painless than others, so that patients have a good compliance and tolerance.

Results / Discussion: There are efficient results in this therapy in a rehabilitation clinic. So this wound cleaning system should be used in any other situations, such as bourn injuries.

Conclusion: Cleaning systems, new and efficient for woundcleaning must take a place in the therapy of different wounds to make less pain and faster woundhealing. If you take view to the costs, there is a good price comparison to the results.

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[EP041] SUPERABSORBENT DRESSINGS IN THE MANAGEMENT OF HEAVY EXUDING LOWER LIMB WOUNDS: A COMPARISON

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E-poster Session: Dressings 2

Aim: To demonstrate the effectiveness of the superabsorbent dressings in the management of the heavy exuding chronic wounds

Method: We compared two superabsorbent dressings in an alternation randomized trial; we evaluated 20 patients, divided into two groups of 10 each, with a heavy exuding chronic wound of the lower limb. The first group of patients was treated with a superabsorbent wound dressing with a polypropylene contact surface and an absorbent pad of cellulose*. The second group was treated with a superabsorbent wound dressing with a core with superabsorbent particles**. The observation time was four weeks. We evaluated the effectiveness in the exudate control.

Results / Discussion: The patients of the second group had a very impressive improvement, due to a complete exudate control; even if the dressing was completely full of exudate, the contact layer was always lightly moist, to allow the right microenvironment. The patients of the first group had a very important problem: in 6 of 10 cases the dressing was broken within 3 days of use, with the loss of the superabsorbent particles on the wound. In the other 4 cases we highlighted a light maceration when the dressing rested in place 4 days.

Conclusion: There is no doubt that we can't have a comparative analysis due to the failure of the dressings of the first group in 6 cases of 10. We achieved good results with the patients of the second group in terms of exudate control and effectiveness: every wound showed an improvement, an area reduction and an active wound edge.

*Curea P1 (Bullen Healthcare)

**Cutisorb Ultra (BSN Medical)

[EP042] OXIDIZED CELLULOSE DRESSINGS IN COMPARISON IN THE TREATMENT OF DEEP PRESSURE SORES

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E-poster Session: Dressings 2

Aim: To compare two different kinds of oxidized cellulose dressings in the evaluation of effectiveness in the filling action.

Method: We compared two different dressings in the management of cavitory pressure lesions, evaluating the filling time, the weartime and the incidence of complications; the inclusion criteria were the presence of a deep pressure sore and a clean wound bed (WBP score A 1-3). We enrolled 20 patients, divided into two groups of 10 each, with a deep pressure ulcer: we treated the first 10 patients with a dressing of oxidized regenerated cellulose and collagen*; the other 10 patients were treated with a dressing of hydrogenated calcium salt of oxidized cellulose**. The observation time was six weeks.

Results / Discussion: Both groups had very good results: we had a complete recover of the loss of substance within the observation time. The difference between the two groups was the weartime and, especially, the complications incidence. Group 1 had a weartime of about 48 hours; group 2 had a weartime of about 72 hours, but in some cases the change was made after 96 hours. There were neither complications nor adverse reactions in group 2; in group 1 we had one case of allergy, one case of bleeding and three cases of infection.

Conclusion: Even if in 6 cases of 10 we had the same result in terms of filling time, we can state that the dressing of hydrogenated calcium salt of oxidized cellulose has been more effective than the one of oxidized regenerated cellulose because we had no allergies, no bleedings, no infections.

*Promogram (Systagenix)

**Emoxicel Biodress (Medical)

[EP043] MECHANICAL DEBRIDEMENT: A NEW FRONTIER IN THE WOUND BED PREPARATION WITH A NEW MONOFILAMENT FIBRE TECHNOLOGY

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E-poster Session: Dressings 2

Aim: Debridement is one of the key aspects necessary for tissue repair, especially in chronic wounds and shared by the scientific literature in the management of wound bed preparation. In view of specific care and home management of the clients has been seen as the mechanical debridement through technology specific monofilaments, can be an added value in terms of efficacy, safety, tolerability, results and ease of use.

Method: Three patients from two different nursing homes care suffering from chronic wounds of all medical aetiologies located in all body. Experience of the treatment was recorded in ulcers of varying etiology 2nd with fibrin. For the evaluation a questionnaire was filled achievement analyzing patient histories, inclusion of wound characteristics, and experience and assessment. Two questions about comfort and pain was addressed to the patient. All parameters were registered on 5-point scales. For comparison three patients were treated with debridement autolytic after cleansing. The evaluation was performed every two days to a week.

Results / Discussion: It was Observed a better quality of the bottom of the lesion, better tolerated by the assisted and reduced nursing time together with a reduction in direct costs to the treatment of the same faces.

Conclusion: The authors have shown that through the use of this device you can make debridement of chronic wounds with high clinical effectiveness, outcomes comparable and no adverse events.

[EP044] RELEASE OF POVIDONE-IODINE FROM POVIDONE-IODINE CONTAINING POLYURETHANE FOAM DRESSING

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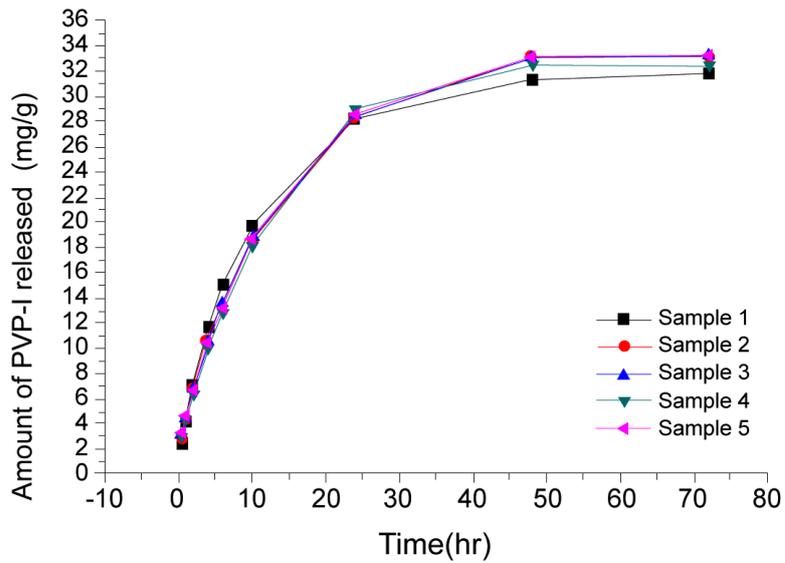
E-poster Session: Dressings 2

Aim: This study was designed to measure the amount of povidone-iodine (PVP-I) released over time from a PVP-I containing polyurethane foam dressing (Dressing B) indicated for use on wounds at risk of infection with exudation. The dressing features an absorbent foam layer infused with PVP-I, covered by a waterproof polyurethane film to maintain a moist wound environment. PVP-I is a broad spectrum antiseptic for topical application in the treatment and prevention of infection in wounds.

Method: Five samples of Dressing B replicates were evaluated. Each sample was placed on a Franz Cell diffusion system membrane filter (molecular weight, 1,000 daltons), and phosphate buffered saline (PBS) was poured into the donor compartment until the dressing was soaked. The water jacket temperature was set at 37°C. PBS samples were collected at 0.5, 1, 2, 4, 6, 10, 24, 48, and 72 hours, and the PVP-I concentration in each sample was measured using high performance liquid chromatography.

Results / Discussion: Dressing B releases PVP-I with little variability over the first 24-hour period, continuing for at least 48 hours (Figure 1).

Figure 1. PVP-I release over time



Conclusion: Dressing B showed an ability to release PVP-I over a sustained period of time (in excess of two days) in a moist environment.

Dressing B = BETAplast PRO™;

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