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Was lernen wir vom Dekubitus beim Querschnittgelähmten für die ganzheitlich-medizinische Behandlung chronischer Wunden?

X. Jordan¹, H. Mühlemann¹, R. de Roche², M. Mäder²

¹REHAB Basel, Wundtreffpunkt, Spezialsprechstunde für chronische Wunden, Basel, Switzerland,

²REHAB Basel, Basel, Switzerland

Ziele: Unser Krankenhaus betreut seit über 30 Jahren querschnittgelähmte Patienten. Die Dekubitalulzera haben unter den Komplikationen bei Querschnittgelähmten eine große Bedeutung wegen der langen Krankenhausaufenthaltszeiten, der damit verbundenen hohen Kosten und der hohen Rezidivraten. Wir wollten die Durchschnittslicgezeit, die Verteilung und die Besonderheiten dieser Patienten untersuchen, und die dabei gewonnenen Erkenntnisse in unser Konzept ganzheitlich-medizinischer, ambulanter Betreuung einbauen.

Methode: Wir haben unsere internen Zahlen aus dem Jahre 2003 ausgewertet.

Ergebnisse: Im Jahre 2003 mussten 150 Querschnittgelähmte wegen akuten Querschnitt-typischen Komplikationen in unserem Haus hospitalisiert werden, während insgesamt 190 Aufenthalten. Darunter befanden sich 37 Patienten (45 Aufenthalte) mit einem oder mehreren Dekubitus Grad III nach Seiler oder höher, was 24.6 % aller stationär behandelten Patienten mit Komplikationen (23.6 % der Aufenthalte) ausmachte. Diese 150 Patienten verursachten 6.566 Pflage tage, auf die Dekubitalulzera fielen 2'376 Pflage tage (36 %). Die Durchschnittsdauer eines Aufenthaltes betrug 52.8 (10–251) Tage.

Diskussion: Die Dekubitalulzera werden in der Literatur mit einem Anteil von 23–33 % pro Jahr an den Pflage tagen bei Komplikationsbehandlungen beschrieben. Als Risikofaktoren anerkannt sind die Tetraplegie und komplette Läsionen. Auffallend finden sich wenige jüngere Paraplegiker in einer besonderen Risikogruppe mit hohen Rezidivzahlen. Unsere Zahlen weichen in einigen Punkten von den in der Literatur publizierten Angaben ab. Wir befinden uns mit einem Anteil von 36 % pro Jahr an den Pflage tagen etwas oberhalb der Referenzzahlen. Die Streuung der Aufenthaltsdauerzahlen (10–251 Tage) ist riesig. Einige wenige Problempatienten mit überlangen und häufigeren Krankenhausaufenthaltszeiten fielen auf. Diese Patienten erfordern die Erfassung und Optimierung ihrer Gesamtsituation nach biopsychosozialen Ansätzen, was ein Netzwerk an Fachpersonen erfordert, die gemeinsam mit dem Patienten ein mittel- und langfristiges tragfähiges Ergebnis erarbeiten. Dieses ganzheitliche Konzept der Dekubitusbehandlung hat sich in unserem Krankenhaus aus den über Jahren gesammelten Erfahrungen in der Behandlung querschnittgelähmter Patienten sowohl im stationären als auch im ambulanten Bereich entwickelt. Dieser Ansatz der ganzheitlich-medizinischen, ambulanten Behandlung chronischer Wunden wird in der Zukunft nicht nur beim Querschnittpatienten, sondern auch in der Allgemeinbevölkerung unumgänglich sein, da die Patienten immer älter, die Ursachen der chronischen Wunden immer komplexer werden und der Kostendruck stationären Aufhalten immer mehr im Wege steht.

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Inadine in the post-operative treatment of nail avulsion and matrix phenolisation

R. Litvik¹, Y. Vantuchova¹, B. Vresky²

¹University Hospital Ostrava, Department of Dermatology, Ostrava, Czech Republic,

²University Hospital Ostrava, Department of Plastic Surgery, Ostrava, Czech Republic

The ingrown toenail is a common problem. An estimated 10,000 new cases present in the UK each year. Inappropriate toenail cutting in combination with chronic trauma from tight shoes often causes ingrown toenails. A spicule of the nail plate lacerates the soft tissue of the lateral nail fold and leads to painful irritation, inflammation, infection, and growth of excessive granulation tissue. Many surgical treatments have been described, such as nail edge separation, partial matrix phenolisation, and the classic wedge excision. In our workplace we use Haneke's technique: 1. the affected area should be washed with a quick-acting alcoholic antiseptic 2. insert a ring block, using lignocaine without adrenaline 3. all nail procedures should be preceded by the application of a digital tourniquet proximally at the base of the phalanx. It is vital to remember to remove it at the end of the procedure. 4. the nail is split longitudinally on both sides 5. the lateral nail fragments have been removed and the matrix cutted or destroyed by phenol 6. remove the tourniquet 7. all bleeding can be stopped by the bipolar diathermy 8. skin closure with thick sutures 9. dress with povidone-iodine (Inadine) to provide antisepsis, bandage the toe to provide some compression 10. ask the patient to elevate the foot as much as possible for the next 24 hours, re-examine the wound after one day 11. timing of suture removal: 10–14 days. Within a year 2003, we have treated 66 patients (age: 10 to 83 years, gender: 29 women, 37 men). Patients were followed for one year after the treatment, and the recurrence rate of ingrown toenail after Haneke's technique was rare: in our study only in 2 of 66 patients (3.03 %). Our results suggest that Inadine wound dressing after Haneke's technique facilitates healing by promoting more rapid epithelisation, when compared with conservative wound care. Inadine caused less bleeding on dressing removal, and Inadine treated patients required less analgesia in post-operative treatment of nail avulsion and matrix phenolisation.

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The effect of Amelogenins (Xelma™) in hard-to-heal venous leg ulcers

***P. Vowden¹, M. Romanelli², R. Peter³, Å. Boström⁴,
A. Josefsson⁵, H. Stege⁶***

¹Bradford Teaching hospitals NHS Trust, Department of Vascular Surgery and Wound Healing, Bradford, United Kingdom,

²Dept of Dermatology University of Pisa, Pisa, Italy,

³Hospital and Clinic for Vascular surgery and Dermatology, Blaustein, Germany,

⁴Dept. of Dermatology, Akademiska Hospital, Uppsala, Sweden,

⁵Dept. of Dermatology, University Hospital, Örebro, Sweden,

⁶Dept. of Dermatology, University Clinic, Düsseldorf, Germany

Introduction: The incidence of venous leg ulceration is known to increase with aging and the number of venous leg ulcers will therefore increase as the population as a whole ages. Today, treatment aims to maintain 'good wound care' and improve circulation by compression therapy or leg elevation. In this study the effect of amelogenin proteins formulated into solution was investigated. The amelogenin proteins provide a temporary extracellular matrix protein, providing cell adhesion.

Methods: A single blinded, randomised multi-centre investigation aiming to compare wound size reduction in patients with hard-to-heal ulcers, treated with amelogenin proteins* or control, propylene glycolalginate. Investigational products were applied weekly up to a maximum of 12 weeks. For secondary dressing soft silicon dressings were used. Compression therapy was maintained throughout the investigation. Wound size reduction was measured by tracing.

Results: 123 patients were included. Six patients were excluded from full analysis set. The number of patients analysed equalled 58 and 59 for amelogenin and control groups respectively. Subgroup analyses were performed on ulcers with size > 10 cm² at baseline and duration of >12 months. The wound size reduction was greater in the groups treated with amelogenin proteins.

Conclusions: A positive trend for improved wound size reduction is shown on larger ulcers and ulcers with long duration.

Product notation: * Xelma™ Mölnlycke Health Care AB, Göteborg, Sweden

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The introduction of a cohesive short stretch bandage into a specialist leg ulcer clinic

J. Wilson, D. Hofman

Churchill Hospital, Oxford, United Kingdom

Introduction: Compression has long been acknowledged as the mainstay of management of venous leg ulcers. There are various systems of compression bandage: 4 layer, 2 layer, long stretch, short stretch. Different countries have their own preferences Holland Austria and Scandinavia predominantly using short stretch while UK has traditionally favoured long stretch and 4 layer systems.

In our specialist leg ulcer clinic all bandage systems are used, but long stretch bandage and 4 layer bandage have predominated over short stretch. This has been because of the problem of educating nurses in the community (with whom we share patient care) in the use of a complex bandage system. It is frequently stated that short stretch bandaging is ineffective in the management of ulceration in an immobile patient. However, in our clinic it has been used effectively to reduce oedema in patients who are immobile. Aim The aim of this case study series (10 patients) is to evaluate, the effectiveness of, and patient satisfaction with cohesive short stretch bandaging with view to introducing the bandage system in our clinic into our clinic.

Methods: 10 patients with venous / mixed aetiology ulceration referred to our clinic from the community or previously attending clinic for compression bandaging were selected for short stretch cohesive bandaging. All patients' care was shared with the community and education was arranged in the bandage technique for nurses unfamiliar with the technique. Healing rates were monitored over a 16 week period and patients' comments were recorded. One immobile patient was recruited into the study.

Results: All patients' ulcers have reduced in size or healed. The bandage was well tolerated by patients; they found the bandage comfortable and liked its lack of bulk. One patient had been unable to tolerate other bandaging. All nurses found the bandage simple to apply and the bandage stayed in position well between dressing changes. The immobile patient's limb reduced in size and ulceration improved.

Discussion: Following these satisfactory evaluations we have adopted cohesive short stretch bandage as the first bandage of choice in our clinic.

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Impact of the reduction of pressure ulcers as a result of establishing, in practice, of a home nursing protocol

***D. Alejandro Mazzilli¹, A. Saavedra Valdayo¹,
I.M. Morales Aranjuez², J.-E. Torra i Bou³***

¹Family Nurse, CS La Luz, Malaga, Spain,

²Family Doctor, CS La Luz, Malaga, Spain,

³Smith&nephew, Spain, Clinical&Educational Department, Sant Joan Despi, Spain

Introduction: Community nurses at the Centro de Atención Primaria La Luz, Málaga, share the concept defined by Virginia Henderson as to that individuals are whole and tend to satisfy their fourteen basic needs, thus achieving their independence. Within this context, we have focused on the diagnostic of the Risk for Skin Integrity Breakdown and its breakdown, as well as the definition of activities for preventing pressure ulcers. Before using a prevention program, the Risk of Skin Integrity Breakdown, reached, in home attended patients, to 80 per cent with a 65 % due to pressure ulcers.

Material and methods: The goal of this investigation is the assessment for establishing a protocol of preventive measures to develop pressure ulcers. This protocol includes the use of special surfaces, hydrocellular dressings (Allevyn) for local protection, hyper

oxygenated fatty acids as well as a specific education of caregivers. The study has been designed as experimental, prospective, non randomized and open. A group of 50 diminished patients with their caregivers have been included after consent. The protocol was applied to 50 % (case group), equivalent to 25 patients in protocol and 25 without (control group). The distribution criteria became determined by the willingness of caregivers to follow the educational program.

Results: 50 patients have been included in the study, 25 in the case group and 25 in the control group. No significant differences were encountered as to age, sex distribution, and time of participation at the home care program. Pressure ulcer incidence was of 0 % in the case group and 72 % in the control group

Discussion: Our results show an obvious improvement after the use of the protocol and the education of caregivers. As a restraint to our study we must highlight that the sample was not randomized, even if no differences showed among participants

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Skin injuries caused by medical adhesive tape in the elderly, and associated risk factors

C. Konya¹, A. Kitagawa², M. Okuwa¹, H. Sanada², J. Sugama¹, K. Tabata³

¹Division of Health Sciences, Graduate School of Medical Science, Kanazawa University, Kanazawa, Japan,

²Division of Health Sciences and Nursing, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan,

³Asanogawa Sengi Hospital, Kanazawa, Japan

Aim: Since the physiological function of the skin decreases with aging, the elderly are more susceptible to skin injuries caused by medical adhesive tape. The purpose of this study was to investigate the status of skin injuries in elderly caused by adhesive tape, and their risk factors.

Methods: The subjects were 155 patients aged 65 years or older who were admitted to a long-term care facility and required the use of adhesive tape. Patients who showed no skin injuries on August 12, 2003, were selected, and the incidence rate and status of skin injuries that occurred during the 8 weeks were investigated. The skin injuries observed were classified by a dermatologist. The risk factors were examined statistically from three aspects "Ephysical factors, skin factors, and tape factors" on the basis of the presence or absence, and the morphological characteristics of the skin injuries. Because the characteristics of the adhesive tape might be obscure, the tapes were switched to one of five types produced by a single manufacturer on August 12. Informed consent was obtained from all patients.

Results: Skin injuries developed at 34 sites in 24 subjects. The cumulative incidence rate was 15.5 % and the incidence density was 38.0/1000 person-days. Many of the skin injuries occurred around pressure ulcers and IVH sites. Other prevalent areas included the buttocks and back, where tape is commonly used. The skin injuries were classified into contact dermatitis (70.6 %), trauma (20.6 %), and infection (8.8 %). The ratio of skin contamination and

skin mobility in patients with contact dermatitis was significantly higher than patients with no skin injury.

Discussion: There has been no study on the incidence of skin injuries caused by adhesive tape in the elderly. The incidence of skin injury due to adhesive tape is higher than that due to pressure ulcers, the incidence of pressure ulcers in this facility being 2.0 %. It is necessary to focus attention on skin injuries caused by adhesive tape. Skin care for contamination and effective way to apply adhesive tape may be needed to prevent contact dermatitis.

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An open non-randomised case study to evaluate a new soft silicone dressing in patients with radiation skin reactions

K. Finnilä¹, L. Sharp², M. Wells³, S. MacBride³, C. Hornsby³

¹Karolinska University Hospital, Dept. of Oncology, The Radiotherapy unit at Södersjukhuset, Stockholm, Sweden,

²Karolinska University Hospital, Huddinge, Stockholm, Sweden,

³School of Nursing and Midwifery, University of Dundee, Dundee, United Kingdom

Introduction: Many patients who undergo radical radiotherapy treatment develop Radiation skin reactions, such as skin erythema, itching and moist desquamation. These side effects are often difficult to manage and could cause significant problems for the patients. These patients often experience pain and itching and their broken skin provides a focus for infection. Therefore there is a need for a comfortable dressing, which will protect the skin from unnecessary breakdown due to friction and provide an optimum healing environment. Soft silicone dressings have the potential to address all the above issues.

Methods: The aim of this open non-randomised case study was to evaluate the comfort, conformability and overall experience of a new soft silicone dressing* in patients with radiation skin reactions. This study involved two centres in Dundee UK and Stockholm SE. 16 patients with diagnosed breast or head and neck cancer, who showed a radiation skin reaction, were treated with the soft silicone dressing* and followed for at least 15 dressing changes. During the study, data were collected with the RISRAS (Radiation Induced Skin Reaction Assessment Scale) on a weekly basis. Data were collected in the form of open diaries and questionnaires. Every week the skin reactions were documented with photographs.

Results: Comfort and tolerability in general were good. Most patients found the dressing to be easy to apply and remove. The dressing was also described as comfortable to wear and protective during movement and sleep. 3 patients decided to discontinue using the dressing. One of these patients, with extensive areas of moist desquamation, got a heavy and tight feeling from the dressing. 2 patients experienced severe itching and were withdrawn from the study. Both patients and nurses were very positive about the benefits of the dressing and found it easy to adapt to their needs.

Discussion: The dressing used in this study has a number of properties that make it particularly suitable for the management

of radiation skin reactions. It is easy to handle and easy to remove and provides good protection together with a good healing environment for the vulnerable skin.

* Mepilex® Lite, Mölnlycke Health Care AB.

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Global wound academy. An on line education combined conception among private industry and the university. Presentation of the on line course of the univestiy of Cantabria.

**C. Castanedo Pfeiffer¹, M.B. Regar², R. Saravia Lavin³,
E. Hernandez Martinez Esparza⁴, G. Alonso Besteiro⁵,
I. Sarmiento Montenegro¹, J.-E. Torra i Bou⁶**

¹University of Cantabria, Santander, Spain,

²Smith&Nephew, Largo, United States of America,

³Hospital Universitario Marques de Valdecilla, Santander, Spain,

⁴Clinica Residencia los Robles, Mortera, Spain,

⁵Smith&Nephew, Sant Joan Despi, Spain,

⁶Smith&Nephew, Spain, Clinical&Educational Department, Sant Joan Despi, Spain

Introduction: Post-graduate education is a valuable help for continuous education of professionals and their adapting to new methodological and technical means. The Internet is an essential mean that offers great possibilities for education, reducing distance, favouring interaction among teachers and pupils and the inclusion of audiovisual contents.

Material and method: Hereby we present the development of a College Expertise course: " Attention, Care and Cures of Chronic Wounds" given from the University of Cantabria virtual classroom. This course is the end product of shared concern among the University of Cantabria on line course development and Smith&Nephew, a company with a clear and decided significance on investigation, education and personal development of health professionals. The on line course content is based on the " Global Wound Academy" a Smith&Nephew international educational initiative. There is a timeline for the course as well as a sequence of contents to be followed, thus pupils are being monitored regularly by professors at the University of Cantabria, the programming support of the virtual Classroom and the Clinical Department of Smith&Nephew for inclusion and follow up of real clinical cases. The accreditation by the University of Cantabria is a consequence of having fulfilled the requirements of the specific tests and alumni effort. The content of the course has (at this moment) the following modules: Skin structure and blood composition, healing, wound bed preparation, wound assessment, pressure ulcers and venous ulcers. The course has on line learning tests and interactive images, discussion forums, clinical cases and links to related web pages.

Results - discussion: Until this exposition there have been two promotions of this course. By this experience, we may confirm that the course is well accepted by students, that the Internet has pro-

ven to be a highly efficient methodological tool and compliance to on line high level learning, that allows higher student follow-up than many at university courses, being the collaboration of a University and industry a useful mean of achieving goals that independently it would not be possible. After two editions as an Expertise Course, it has become a Master in Attention, Care and Cure of Chronic Wounds.

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Efficacy and tolerance of wound dressings Urgotul® and Duoderm®E in the treatment of venous and mixed leg ulcers : resultats of randomised clinical study

S. Meaume¹, P. Senet¹, J.-M. Bressieux², S. Bohbot³

¹Charles Foix Hospital, Ivry Sur Seine, France,

²Hospital Centre, Troyes, France,

³Laboratoires URGO, Chenove, France

Introduction: If the aetiological treatment of venous disease is well known (compression therapy), new classes of wound dressings have to be evaluated in local management of leg ulcers compared with the reference dressings. A multicentre randomised clinical study was conducted to compare the efficacy, the tolerance and the acceptability of Urgotul® and Duoderm®E (control group) dressings in the treatment of leg ulcers. A medico-economic approach was associated in this trial.

Material and methods: 20 French dermatological and vascular medicine's wards have included 91 patients in this study. The patients were divided in two groups counting 47 and 44 patients respectively. The patients were followed up to 8 weeks on a weekly basis, including a clinical, planimetric and photography evaluation in association to a compression therapy for all patients.

Results: Baseline characteristics of the patients and the wounds were well balanced in the 2 groups. Totally 497 evaluations and 1082 dressing changes were realised. The efficacy of the tested dressings considering the surface reduction was equivalent in the 2 groups. The analysis of local tolerance has reported a number of local adverse events significantly more important in the control group. The lipido-colloid dressing Urgotul® presents a higher para-medical acceptability on several parameters (pain at removal ($p = 0,01$), odor or maceration). Lastly, the collected medico-economic data was similar in two groups.

Conclusions: This study has shown a better local tolerance and acceptability of a non-adherent wound dressing Urgotul® in association to an equivalent efficacy and cost in leg ulcers management.

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How to optimize the VAC® therapy with a non adherent lipido – colloid wound dressing Urgotul®

F. Lambert¹, E. Bey¹, S. Bohbot²

¹HIA PERCY, Clamart, France,

²Laboratoires URGO, Chenove, France

The treatment of the acute and chronic wounds which we encountered in our daily practice in plastic surgery requests sometimes less conventional methods than usually used in our healing conventional strategies (modern wound dressings). The characters of certain wounds (extend, depth, fibrinous aspect, volume of exudates) or the absence of favourable evolution often lead us to treat locally these difficult wounds by the VAC® system (Vacuum Assisted Closure) based on the use of a negative pressure on the wound area. Used during limited time (in the range of a few days to several weeks) the VAC allows to obtain a tissue granulation of good quality by a drainage of exudates then making possible the relay by local therapeutics or even by a surgical gesture. However, we are frequently confronted to a problem of adherence of the foam of this system to the wound bed then making a removal of this foam painful. This problem is most probably related to the inclusion of granulation tissue of the wound bed in this foam. Also, to avoid this traumatic removal and patient's pain, we associate in a systemic way a non adherent lipido-colloid dressing (Urgotul®) which covers the wound bed before the foam's application. We will report after some observations of our experience, the very good results issued from this association VAC® - Urgotul® wound dressing.

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Global wound academy. An on line education combined conception among private industry and the university. Results of the assessment of the first two editions

C. Castanedo Pfeiffer¹, R. Saravia Lavin², E. Hernandez Martinez Esparza¹, I. Sarmiento Montenegro², M.B. Regan³, G. Alonso Besteiro⁴, J.E. Torra i Bou⁴

¹University of Cantabria, Santander, Spain,

²Universidad de Cantabria, Santander, Spain,

³Smith & Nephew, Largo, United States of America,

⁴Smith&Nephew, Sant Joan Despi, Spain

Introduction: The starting point of an educational project between the University of Cantabria and the Global Wound Academy of Smith&Nephew, establishes the need to translate the assessment results of the course experience done by the virtual classroom at the University of Cantabria. By the time being, on line education and education by the Internet has not much prestige in our country due to the little or null control and follow up of this type of edu-

cation. The project that we present, on the contrary, pretends to demonstrate that it is possible that this type of education approaches a high level learning contents and from the tools given by the virtual classroom of the University of Cantabria, compromises the pupil, to a high degree of participation, and the teachers-tutors and directors, to an exhaustive follow up very personal oriented.

Objectives: Assess: – Participation of pupils on the first course of College Expert " Attention, care and cure of Chronic Wounds". – Pupil's assessment of the course, satisfaction degree, learning and tutors implication and teachers in charge of follow up.

Methods: Data obtained analysed by: – The WebCT tool of the virtual classroom of the University of Cantabria, as to access to modules, participation, alumni profile, etc. – Evaluation questionnaire of the pupils as to satisfaction degree of the course.

Results: At present closing the second edition of the course, we still cannot present definitive data in this abstract.

Discussion - Conclusion: The WebCT tool at the Virtual Classroom of the U.C. demonstrates that education Internet wise may be as formal as the institution that gives it wants it to be, considering in this case, that the tool of U.C. is high quality. It is highlighted the easiness (access place, possibility to stop and restart the course, etc) and alumni satisfaction. In this course it is demonstrated that the relationship University Industry takes us to high level projects, resulting useful so that professionals apply their knowledge in every day practice

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Relationship between myofibroblasts (MF) distribution and cross and circle scar forms due to contraction of square and circle wound healing

A. Mawaki, T. Nakatani, J. Sugama

Devison of Health Sciences, Kanazawa University Graduate School of Medical Science, Kanazawa, Japan

Introduction: Square-shaped full thickness skin wounds can heal to form a cross-shaped scar with four protrusions at the four diagonals. However, round wounds can heal to form a ellipsoid scar. It has not been clear why these differences occur. Our hypothesis is that there are few MF at the angles and diagonals, contributing to wound contraction. This study was conducted to investigate that hypothesis.

Methods: Two square or circular full thickness skin wounds were made on the dorsum of mice. On days 3, 7, 11, and 15 after wounding, the wound tissues were harvested and prepared for paraffin sections stained with H-E and anti a-smooth muscle actin antibody to detect MF. The experimental protocol and care of the animals were in accordance with the Guidelines of Laboratory Animals of Kanazawa University.

Results: Midpoints at the four sides of square wound moved towards the center of the wound, whereas the angles of the square wound moved less than the midpoints. So the residual area of the wound became cross-shaped due to contraction. Circular wounds contracted to the size of rice. In both square and circular wounds, there were no MF at the wound edges at 3 days. At seven days,

MF were present in a belt form showing a constant width from the wound edges in both square and circular wounds. Areas without MF was observed in the square and circular wounds. MF formed a bridge with the ends on opposite wound edges. At 15 days, MF existed along the wound edge and the peripheral area of granulation tissue. Since some MF were observed on diagonals and angles on day 7, 11, 15, our hypothesis seems to be negated.

Conclusions: MF appear along the wound edge of both circular and square wounds then move into the interior of the wounds. In square wounds, MF move along a diagonal perpendicular to sides, pulling the edges. So the movement of the sides near the angles may be less than any other portions of the sides. The midpoints of sides move the longest distance to the center of the wound. These MF movements may produce the cross-shaped scar.

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Leg ulcers and Cellosorb® non adhesive and adhesive wound dressings : results of two french multicentre clinical studies

J.L. Gerard¹, P. Celerier², H. Maillard², E. Esteve³, S. Fays⁴, J.-L. Schmutz⁴

¹Henri Mondor Hospital, Creteil, France,

²Hospital Centre, Le Mans, France,

³CHR Porte Madeleine, Orleans, France, ⁴Fournier Hospital, Nancy, France

Venous disease is a main aetiology of leg ulcers which presents a real problem of public health. The therapeutic strategy of this pathology is based on two complimentary elements: the compression therapy which is a real aetiological treatment of this pathology and the management of local care with adapted dressings which promote the healing process. In order to evaluate the efficacy, the tolerance and the acceptability of the Cellosorb® Non Adhesive and Cellosorb® Adhesive wound dressings in the local management of venous leg ulcers, two prospective, multicentre, non-comparative phase III open-label clinical studies were conducted in 30 French hospital dermatology and vascular medicine departments and private dermatology and phlebology practices. Patients were followed-up six weeks on a weekly basis including clinical evaluation, area tracings and photographs by the investigator, in association to a nursing staff evaluation made at each dressing change during the whole treatment time. More than 100 patients, presenting a recurrent ulcer with wound surface between 3 to 50 cm², (Cellosorb® Non Adhesive study) or 3 to 40 cm² (Cellosorb® Adhesive study) which duration is less than 18 months were included in these two studies. In the two studies, the mean surface area reductions after 6 weeks of follow-up were about 40 % and the mean dressing change frequencies were more than 3 days. Good tolerance and were observed in the two studies. A very good acceptability for the patient (painless removal...) and for nursing staff (ease of use, respect of the surrounding skin of the non adhesive and adhesive wound dressings...) was recorded for the Cellosorb® Non Adhesive and Cellosorb® Adhesive. These results demonstrated that the local treatment of the venous leg ulcers with Cellosorb® Non Adhesive or Cellosorb® Adhesive wound dressings, associated with compres-

sion therapy, allowed a good evolution of the healing process in these chronic wounds. The good tolerance observed by the investigators and the very good acceptability of these two dressings, documented by the nursing staff and the patients, were greatly appreciated.

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The follow up of patients with lymphoedema of lower limbs

T. Planinsek Rucigaj¹, M. Kosicek²

¹Clinical Centre Ljubljana, Departure of Dermatovenerology, Ljubljana, Slovenia,

²General Health Centre, ambulance of Dermatovenerology, Kranj, Slovenia

Introduction: Lymphoedema is a chronic swelling of different parts of the body arising from accumulation of fluid and proteins in the intercellular space. The disease is a result of primary or secondary abnormality of lymph pathways. Early treatment with different types of compression is necessary to prevent the progression of the disease. The AIM of the study was to evaluate clinical effectiveness of compression stockings class III in the maintaining therapy of lymphoedema of lower limbs.

Materials and methods: 46 patients with lymphoedema of lower limbs were included in the retrospective clinical study. They had no arterial and no heart disease. All patients were treated with short stretch bandages first. After that compression stockings class III were prescribed. Patients were observed once a year. The circumferences of ankle, 10 cm bellow and 10 cm above the patella were measured at the beginning, after one and after two years of wearing compression stockings. Patients were divided in three groups. Group 1: patients with primary lymphoedema who were regularly wearing compression stockings class III. Group 2: patients with secondary lymphoedema who were not regularly wearing compression stockings class III. Group 3: patients with secondary lymphoedema stage II-III who were regularly wearing compression stockings class III.

Results: Group 1: 14 patients were included. After two years of wearing compression stockings class III ankle circumferences increased for 1 cm (5,26 %) on average. Circumferences measured 10 cm bellow the patella increased for 3,15 cm (8,3 %) and circumferences measured 10 cm above the patella increased for 2,63 cm (5,77 %) on average. Group 2: 9 patients were included. After two years ankle circumferences increased for 1,16 cm (4,8%) on average. Circumferences measured 10 cm bellow the patella increased for 1,7 cm (2,51 %) and circumferences measured 10 cm above the patella increased for 3,01 cm (6,38 %) on average. Group 3: 23 patients were included. After two years of wearing compression stockings class III ankle circumferences decreased for 1,7 cm (5,34 %) on average. Circumferences measured 10 cm bellow the patella decreased for 2,1 cm (4,96 %) and circumferences measured 10 cm above the patella decreased for 1,9 cm (2,65 %) on average.

Conclusions: The most important therapy of lymphoedema is early compression therapy. Compression stockings class III are successful as a maintaining therapy of secondary lymphoedema of lower limbs.

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V.A.C. Therapy: An Useful Tool In The Treatment Of Difficult Paraplegic And Tetraplegic Pressure Sores

F. Vercesi¹, P. Di Giuseppe¹, M. Ottonello²

¹Magenta Hospital, Magenta, Italy,

²Santa Corona Hospital, Pietra Ligure, Italy

Introduction: Spinal cord injuries are an increasing pathology and the improvement of medical and surgical treatments induce the prolongation of tetraplegic and paraplegic patients life. This imply more possibilities of pressure sores onset and an increasing rate of complex cases and recurrences. In the last 20 years authors performed more than 600 operations on patients with spinal cord injuries but in the last 3 years a very useful tool to treat complex cases has been V.A.C. therapy.

Materials and methods: In the past 3 years we utilized V.A.C. therapy on 56 patients with pressure sores in spinal cord injuries for a mean time of application of 24 days. 39 males and 17 females, mean age was 43,2 years: 48 paraplegics and 8 tetraplegics. Ischiatic sores were 29, sacral 18 and trochanteric 9. V.A.C. therapy was used in cases where surgery was impossible for general or local contraindications or in cases where surgical recurrences limited new surgical interventions. The therapy has been used before surgery or prior to advanced wound dressing care.

Results and conclusions: In all cases there was an improvement of the wound bed with good granulation tissue, reduction of exudates and absence of infection signs. In 5 cases we obtained the healing of the wound. The application of a negative pressure to the wounds has many advantageous effects that enhance the healing. V.A.C. therapy remove directly the fluid from the wound, reduce perilesional oedema, stimulate granulation tissue formation, decrease the bacterial loading and enhance dermal perfusion. For all these reasons we believe that topical negative pressure therapy as an increasing rule in treatment of complex pressure sores.

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Off-loading and moist wound management in the treatment of diabetic foot ulcers – an effective concept

Druckentlastung und modernes Wundmanagement in der Behandlung diabetischer Fußulzera – ein effektives Therapiekonzept

H.-W. Bonn¹, K. Kohlhas², A. Kogge³

¹Notfallambulanz DRK Klinikum Westerwald, Hachenburg, Germany,

²Diabetologisch qualifizierte Allgemeinarztpraxis, Gebhardshain, Germany,

³Lohmann & Rauscher GmbH & Co. KG, Rengsdorf, Germany

Introduction: Off-loading is essential for the treatment of diabetic foot ulcers. Numerous pressure-relief methods are known. They reach from bed-rest and off-loading by the help of wheelchairs to off-loading half-shoes and Total Contact Casts or cast-shoes (e.g. Mabal-shoe). Moist wound treatment effectively supports the wound healing process. To assess the efficacy of the therapy concept consisting of pressure-relief and moist wound management, the here described pilot-study was performed.

Methods: 5 patients (one female, four males) with single diabetic neuropathic foot ulcers (Wagner-grade 1 or 2, wound size: 0.3–3.6 cm², wound age: 6 months to 6 years, before treatment: off-loading half-shoe) were enclosed (4 patients: plantar foot ulcer, 1 patient: ulcer-location: tip of the big toe). The treatment consisted of moist wound dressings (Suprasorb® range) and off-loading by a removable, padded cast-shoe made of fiberglass-cast (Cellacast® Xtra) and/or polyester-cast (Cellacast® active). The change of wound dressings including wound-debridement was conducted every 2–4 days. The patients were instructed to wear the cast-shoe 24 h. Wound documentation/-evaluation was performed with the Akestes® Wundmanager 1.0 software.

Results: After one week the wound size was on the average reduced by 55 % ± 20 % (mean ± SD, n = 5). Three patients showed a complete wound healing after 14, 26 and 46 days, respectively. The fourth patient revealed a good healing progress with a nearly complete wound closure on day 28, but the wound-size increased nearly to the initial size within one week. This development was attributed to the removal of the cast-shoe by the patient himself in his home area. The ulcer of patient 5 (ulcer location: tip of the big toe) failed to heal within a 12-week period.

Conclusions: Despite the small number of patients the here observed good healing progresses clearly demonstrate the efficacy of the therapy concept consisting of pressure-relief and moist wound management. In particular the plantar ulcers showed a high healing rate of 75 % in this pilot study (n = 4). A good compliance of the patient turned out to be inevitable for a successful therapy. The advantage of the removable cast-shoe for a simple wound-care is therefore tightly connected to a high responsibility of the patient to consequently carry out the off-loading.

Einleitung: Druckentlastung ist ein essenzieller Bestandteil der Therapie diabetischer Fußulzera. Die Möglichkeiten zur Erreichung dieser Druckentlastung sind vielfältig. Sie reichen von Bettruhe

und Entlastung mit Hilfe von Rollstühlen über das Tragen von speziellem Schuhwerk (Entlastungsschuhe), bis zur Ruhigstellung mit Hilfe des Unterschenkel-Total Contact Cast oder abnehmbarer Cast-Schuhe (z. B. Mabal-Schuh). Produkte der feuchten Wundversorgung können die Abheilung der Fußulzera wirkungsvoll unterstützen. Zur Überprüfung der Effektivität eines Therapiekonzeptes aus Druckentlastung und phasengerechter moderner Wundversorgung wurde diese Pilotstudie durchgeführt.

Methoden: 5 Patienten (1 w, 4 m) mit diabetesbedingtem, neuropathischen Fußulkus (maximal Grad 2 nach Wagner, Wundgröße: 0,3–3,6 cm², Wundalter: 6 Monate bis 6 Jahre, bisherige Entlastung: Vorfußentlastungsschuh) wurden in die Pilotstudie eingeschlossen (vier Patienten: plantarseitig lokalisierte Läsion, ein Patient: Ulkus im vorderen Bereich der Großzehe). Die Behandlung bestand in einer phasengerechten feuchten Wundversorgung (Suprasorb®-Range) und Druckentlastung mittels abnehmbaren, gepolsterten Cast-Schuh aus Glasfaser-Cast (Cellacast®Xtra) und/oder Polyester-Cast (Cellacast®Active). Das Verbandwechselintervall einschließlich Wunddebridement betrug 2–4 Tage, der Cast-Schuh sollte Tag und Nacht getragen werden. Wöchentlich wurde eine Wunddokumentation/-bewertung mit Akestes®Wundmanager 1.0 durchgeführt.

Ergebnisse: Nach ca. 1 Woche konnte eine deutliche Verkleinerung der Wundfläche um durchschnittlich 55 % (SD ± 20 %) beobachtet werden. Bei drei Patienten war eine komplette Abheilung der Ulzera nach 14, 26 bzw. 46 Tagen zu verzeichnen. Der vierte Patient zeigte ebenfalls einen guten Heilungsverlauf mit einer nach 28 Tagen fast verschlossenen Wunde. Das Wundmaß vergrößerte sich jedoch bei weiteren Verbandwechseln wieder bis zum Ausgangsbefund. Nach Befragung dieses Patienten konnte die Verschlechterung des Wundbefundes nach anfänglicher guter Heilung auf eine selbständige Abnahme des Cast-Schuhs im häuslichen Bereich zurückgeführt werden. Bei Patient 5 konnte die Läsion im vorderen Bereich der Großzehe innerhalb des Behandlungszeitraumes (12 Wochen) nicht abgeheilt werden.

Discussion: Der hier gezeigte positive Heilungsverlauf belegt trotz der geringen Fallzahl deutlich die Effektivität des Therapiekonzeptes aus Druckentlastung und phasengerechter moderner Wundversorgung. Insbesondere die plantaren Ulzerationen (Fußsohle) zeigten eine hohe Heilungsrate von 75 % in dieser Pilotstudie (n = 4). Bedeutsam für eine erfolgreiche Therapie ist die ausreichende Compliance des Patienten, um Rückfälle zu vermeiden. Die Abnehmbarkeit des Cast-Schuhs erleichtert die Wundversorgung. Dieser Vorteil ist eng mit der hohen Eigenverantwortung des Patienten zur konsequenten Anwendung der Druckentlastung gekoppelt.

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Evaluation of the treatment regime Aquacel™ (Hydrofiber™ dressing) and Versiva® for chronic and acute wounds

S. Nuñez

ConvaTec, Medical Department (Nurse), Sant Just Desvern, Spain

Introduction: The dressings Aquacel™ and Versiva® have proven separately their efficacy and tolerance in several studies. It seemed interesting to validate the results following a protocol using both dressings in a sequential way in the real life.

Objective of the study: The objective of the study was to evaluate the Aquacel™ and Versiva® treatment regime for chronic or acute wounds with different levels of exudate, as well as to find out how comfortable and how easy to use they were for the patient.

Methods: Patients with chronic and acute wounds were included. Weekly follow-up was carried out over a 6 week period. An initial evaluation indicated the characteristics of each kind of lesion. The level of exudate, size and number of dressings used were recorded weekly. The final evaluation analysed the following parameters: reduction in the size of the wound, reduction of pain, adaptability, ease of application and removal, and patient comfort. It was made descriptive statistic and parametric signification test was carried out (ANOVA of duplicated measures and Student t for paired data) and non parametric (Friedman and Wilcoxon). The qualitative parameters were compared with Pearson Chi squared test. Bonferroni correction was applied for multiples comparisons.

Results: 967 patients were included, distributed among 232 centres. The different types of wounds were leg ulcers, pressure ulcers, post-surgical injuries, burns ... Total healing occurred in 328 patients. The evaluation of the remaining parameters will be shown on this poster. These were evaluated as good / excellent in terms of adaptability, patient comfort and application and removal ease.

Conclusions: The adequate treatment using Aquacel™ and Versiva® showed improvement or healing of the chronic and acute wounds in 97,4 % of the patients included in the study. Likewise, the application of the dressings evaluated was associated with a significant reduction in pain and improvements in the surrounding skin. ® /™ indicate trademark of E.R. Squib & Sons, L.L.C.

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Evaluation of the use of the new technology in the whole management in infected wounds

T. Segovia¹, C. Pérez Cedeño², J. Ruiz Castón²,
M. Bermejo Martínez²

¹Puerta de Hierro Hospital, Gneapp director committee member, Madrid, Spain,

²Puerta de Hierro Hospital, Madrid, Spain

Introduction: Clinical experience with Aquacel™ and Aquacel™Ag has yielded good results but so far there are no studies on the use of Aquacel™Ag followed by the use of Aquacel™.

Aim: – To evaluate the benefits – for the patient and the lesion – of sequential therapy of infected wounds using two dressings: Aquacel™ Ag followed by Aquacel™ in day-to-day practice. – To evaluate the criteria that allows us to move from a silver dressing to a non silver dressing

Methods: Determination of an infected wound should be carried out following a number of infection criteria, either clinical or bacteriological. This allows us to choose and to apply the appropriate treatment to the lesion (antimicrobial dressing). In this way, when the clinical infection criteria (warmth, pain and reddening) subsides, we will be able to continue treatment using the same Hydrofiber™ technology, as the lesion will continue to be exudative and we will continue to maintain a moist environment for healing to take place. The therapeutic regime will be shown in 3 clinical cases.

Conclusions: The new Hydrofiber™ technology allows us to start and finish the treatment of an initially infected lesions. This offers good results regarding ease of use, healing of the lesions and improvement of the patient's quality of life.

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Venous leg ulcers treatment with different alginate dressings (case study) Rucigaj TP*

T. Planinsek Rucigaj

University Clinical Centre, Department of Dermatovenerology, Ljubljana, Slovenia

Introduction: Alginate dressings are used for sloughy wounds with fibrinous bed. Trionic® is one of Calcium alginate dressing with added Manganese and Zinc ions and chlorophyllin.

Aim and methods: In small clinical trial 7 patients were included (5 women, 2 men; average age of 77,14 years) with venous leg ulcers (ABPI 0,8 and higher) in stage C 3 (Fallanga V. classification of wound bed. Table 1.). One half of ulcer was treated with Trionic® alginate dressing and the other half of the same ulcer with another alginate dressing. Compression with long stretch bandages was used at every patient. Average time of treatment was 4,43 days.

Results: Half of the ulcer treated with Trionic® alginate dressing showed better progress in 100 % wheather the other half of the same ulcer treated with another Ca alginate dressing showed progress in only 28 %. (Table 2).

Table 1: P 159

	granulation	fibrin	necrosis	changes dressings
A	100 %	-	-	
B	50–100 %	+	-	1
C	50 %	+	-	2
D	+/-	+	+	3

Table 2: P 159

patient	in the beginning	in the end: Trionic®	in the end: other alginates
1	C3	A2	C3
2	C3	B3	C3
3	C3	B3	C3
4	C3	A2	B3
5	C3	A3	B3
6	C3	B3	C3
7	C3	B2	C3

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Evaluation of a Hydrofiber™ dressing versus traditional treatment in sacral cysts

J.M. Llovera

CAP Numancia (General surgery), Barcelona, Spain

Introduction: The most used treatment for surgical wounds that heal by secondary intention is gauzed and antiseptic. In chronic wounds the use of moist wound healing is extended, and is beginning to be used in surgical wounds.

Objective: To evaluate the benefits of using a Hydrofiber™ dressing in comparison to gauzes in the treatment of sacral cysts, a series of patient were followed and the relapse rate and absenteeism from work were recorded allowing us an economic evaluation. Method: 92 patients were surgically treated, 66.3 % were men. The average age was 31.2 years. Fifty three patients were treated with gauzes while thirty-nine were treated with Aquacel™ dressing. Non-parametric statistical tests (Wilcoxon T) were used to compare baseline and after treatment characteristics for not-normally distributed continuous variables, and Chi-square to compare categorical variables distribution between treatment groups.

Results: Although the series of patients were not randomly assigned to either one or the other product, the groups were comparable at baseline. The number of lost working days was recorded being 50,4 days . A statistically significant difference was observed between the work absenteeism in the Aquacel group (44.59 days) and the group with gauzes (54.70 days). This difference was statistically significant (p = 0.004). Only three patients relapsed, none of them in the Aquacel™ cured group.

Conclusions: The economic consequences of the benefit in reducing the productivity loss with Aquacel™ can be relevant taking into account that sacral cysts usually occur in active young people. ® /™ indicate trademark of E.R. Squib & Sons, L.L.C.

Posterabstracts