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Experience Of A Chitin Gelling Fibre Dressing (Kytocel, Aspen Medical Europe Ltd) In The Management Of Two Category 4 Pressure Ulcers In A Community Nursing Home

Lead Contact - Elaine Gibson - Tissue Viability Nurse Specialist
East Kent University Hospitals NHS Foundation Trust/ Clinical Manager,
Aspen Medical Ltd, Thornhill Road, Redditch
Tel: +44(0) 1527587700 Mob: 07584390803
Email: elaine.gibson@aspenmedicaleurope.com

Lead Author - Gloria Haycock - RGN Lead Nurse
Hythe Nursing Home, 91 North Road,
Hythe, Kent, CT21 5ET
Tel: 01303 265441
Email (Care of): linda.hazrah.premiumhealthcare@gmail.com

Co-Author - Florence Frantos - RGN Lead Nurse
Hythe Nursing Home, 91 North Road,
Hythe, Kent, CT21 5ET
Tel: 01303 265441
Email: hythe@hythecare.com

Introduction

Throughout the UK there has been a rapid expansion in residential and nursing home care for elderly people with a corresponding reduction in long term care (Hits R 2010). Hythe Nursing Home accommodates 40 residents. Within the last year a total of 59 patients were admitted between (August 2013- August 2014) out of which 6 (10%) patients required chronic wound care. Many patients are admitted due to either a family crisis for example loss of a main carer, falls, or following discharge from hospital having had an acute illness. Many residents are likely to have some degree of urinary incontinence or dysfunction, linked to poor mobility and ill health, all of these factors increase the risk of pressure damage (National institute of health Care Excellence NICE (2013) (Grey etal, 2006)..

This study examines the management and treatment of two patients that were admitted requiring wound care for existing long term pressure ulcers that had failed to improve over a period of two years prior to their admission. The authors had read about a new a chitosan gelling fibre dressing (KytoCel® Aspen Medical Europe Ltd), Following advice and support from the local tissue viability team, the authors agreed to evaluate the dressing. The authors have a special interest in wound care and ensure that education and training is disseminated to other care home staff. Hythe nursing home had a proud record of achievement following a recently Care quality commission report providing privacy and dignity robust care pathways and referral to specialist care when required. (Care Quality Commission 2013)

Case Study 1

This 81 year was admitted to the nursing home in June 2012, he had recurrent pressure ulcers for more than two years. Past medical history included Cerebral Vascular Accident 2008, rheumatoid arthritis which had left him bed bound, and incontinent. He had multiple admissions to the local hospital for recurrent urinary tract infections. Vascular dementia was diagnosed in 2010 which caused him to have hallucinations. His wife the main carer and could no longer cope at home. Current medication included methotrexate, Ferrous Fumerate, codein phosphate , Donzepezil , Cefuroxime. He was given nutritional supplements. He was allergic to Penicillin.

The main problem was a category 4 pressure ulcer on the left heel that would show signs of healing and repeatedly break down, despite implementation of a care plan that included off-loading, frequent turns, dressing changes and nutritional supplements. He was referred to the tissue viability nurse February 2014, and the local GP, full Doppler assessment was carried out, the patient had no evidence of peripheral vascular disease. X-rays excluded osteomyelitis and a recommendation to use a primary dressing KytoCel® with a secondary dressing of Mepilex border. The staff continued off-loading the left heel and he was prescribed additional nutritional supplements. On the 5th February the wound measured 4.2cm x 4cm probing to bone at a depth of 0.5cm. (Image 1) the surrounding skin was macerated, with bleeding, friable wound bed. The new primary dressing was applied. Within 15 days the bone was no longer exposed surrounding skin was epithelialising, clean and healthy granulation tissue was noted (Image 2). A wound care pathway continued with all staff taking an active role. By the 1st June the left heel had completely healed (Image 3). Despite bone exposure no osteomyelitis was seen. The risk to infection remained high due do his rheumatoid disease, the gelling fibre dressing that had antibacterial properties, supported coagulation when the wound was bleeding and friable This patient will continue to remain a high risk and the nursing staff remain vigilant. Despite a two year history of recurrent breakdown this patients Heel has remained intact over the last 13 weeks.

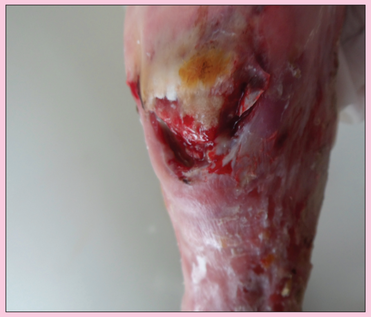

Fig. 1: 7th February 2014

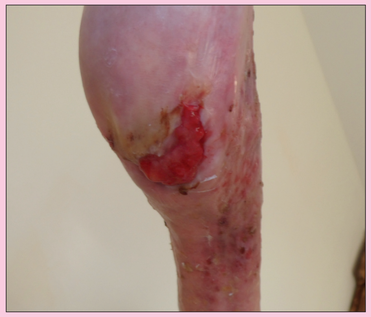

Fig. 2: 22nd February 2014

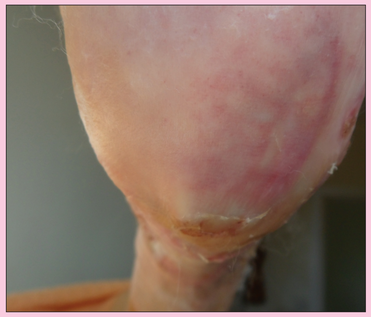

Fig. 3: 3rd June 1st 2014

Case Study 2

A 94 year old gentleman was admitted 26th October 2010, with two non- healing category 4 pressure ulcers on base of spine and sacrum. He was doubly incontinent and had a long term self- retaining catheter with recurrent hospital admissions for urinary tract infections following a trans-urethral prostatectomy resection in 2009. He was admitted into the local hospital October 2010, with rigors associated with pseudomonas contamination and bacteraemia attributed to his pressure damage He was given a course of intravenous antibiotics. On the 25th August 2011 he had a severe bout of diarrhoea, He was reviewed by the local GP as he was losing weight but he refused further investigations or hospitalisation at this time. He lived with his wife who could no longer cope despite community nurses attending on a daily basis. He was found to be meticillin-resistant staphylococcus aureus (MRSA) positive. Previous treatment included, hibiscrub washes twice weekly and bactroban topically to the pressure ulcers. Previous dressings included aquacel AG® and Allevyn border. The main concern for the team at Hythe Nursing Home the patient refused to be out his chair during day despite advice and information regarding the risk associated with his severe pressure damage. He had a healthy appetite, his mobility was very poor.

He was referred to the tissue viability team on 30th June 2014, due to deteriorating pressure ulcers despite robust care pathway. The team recommended a new gelling fibre dressing KytoCel® to be applied as a primary dressing with Mepilex border as he had previously developed a skin reaction to Alleyvn. The aim was to reduce bio-burden whilst maintaining a moist wound environment without causing trauma to the pressure ulcers. He was prescribed Erthromycin, and Metronidazole for a chest infection during this time. A full care pathway of off- loading, frequent 2 hourly turns was advised air dynamic mattress and constant skin observations and hygiene have been maintained. He finally agreed to be nursed in bed for the first time in four years.

The wound measured 9.5cm by 7cm with necrosis 4cm x 5cm the wound bed was sloughy and very malodourous, very heavy exudate. Retention of dressings remained difficult due to constant incontinence. By 5th August the wound measured 3cm x 4cm a reduction of 8cm the surrounding tissue has epithelialised with only a small area of sloughy tissue visible at the base of the spine. This patient has shown remarkable improvement since he has taken an active role in his pressure relieving measures. The wound continues to reduce in size significantly the authors have every confidence he will progress to healing but after four years of injury appreciate that the time scale is not unlimited. A repeated wound swab revealed that MRSA has been irradicated from the wound. There is evidence that KytoCel® has been effective in both log reduction and zone of inhibitions in previous studies (Jones 2014). This is the first time in 3 years that the wound has shown a significant improvement.

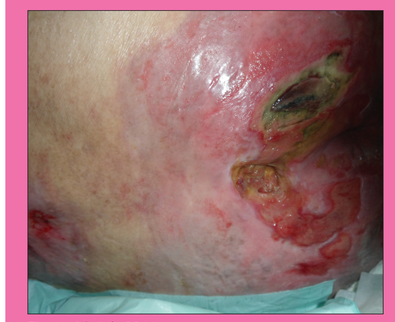

Fig. 1 - 6th July 2014

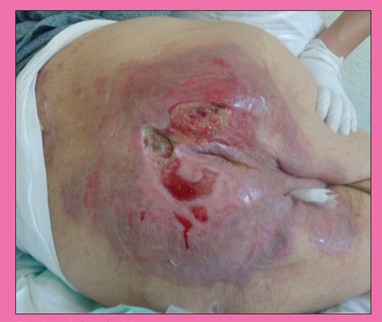

Fig. 2 - 19th July 2014

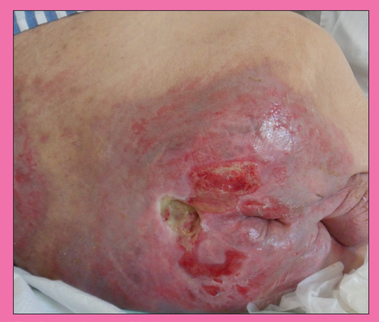

Fig. 3 - 1st August 2014

Conclusion

When patients are admitted from home or hospital for long term care they come with a multiple of problems all of which have an impact on a patient's ability to heal especially if they have had pressure ulcers in access of two years or more. Whilst it may be a relatively small number of patients the time and costs associated with their individual care can be high, treatment for pressure damage in the UK has been estimated as 4% of the NHS' annual expenditure— around £1.4–2.1bn per annum (Bennett et al, 2004). Early results have indicated in these two case studies that the use of KytoCel® as a primary dressing in treating category 4 pressure ulcers in conjunction with a robust individualised care plan demonstrated significant improvements in both category 4 ulcers. The first patient completely healed with no further breakdown in 13 weeks. The second patient had MRSA + wound that had failed to heal in four years reduce in size by 8cm. Pressure ulcers continue to be a real challenge for nursing home residents and staff. Further studies should be undertaken to see if the similar benefits can be demonstrated with other long term chronic wounds.

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