

USE OF POLYHEXANIDE GEL* FOR PERITONEAL DIALYSIS (PD) CATHETER EXIT – SITE CARE

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Background

Catheter exit-site infection remains a major problem in Peritoneal Dialysis (PD) patients. The widespread use of Mupirocin ointment as antibiotic prophylaxis at the exit site led to the observation that resistance can emerge resulting in ineffectiveness against Gram negative organisms. It is, therefore necessary to find an alternative treatment that does not develop resistance and is easily tolerable for the patient.

Polyhexanide gel* is a ready to use gel containing 0.1% Polyhexanide (Polyhexamethylene biguanide (PHMB)), a preservative that prevents bacterial growth, and Betaine, an alkaloid surfactant that enhances wound cleansing. It is used here in comparison to Mupirocin for its 'ease of use' for patients in the treatment for combating catheter exit-site infection.

If a treatment regime proves difficult for the patient to apply then compliance and, therefore, effectiveness may be lessened. This poster presentation compares the experiences of patients applying the wound gel versus the Mupirocin ointment in the treatment of exit site infections.

Introduction

Peritoneal Dialysis is one of the treatment options for patients with Renal Failure. It involves inserting a Tenckhoff catheter into the peritoneum and passing it through the skin.

The area where the tube leaves the skin is called the exit site. Exit site infections are very common. Approximately one in five patients observed within the Trust suffer an infection on the exit site each year and this can lead to Peritonitis or other complications.

These patients are already compromised due to their illness and therefore any infection poses potentially life threatening implications and challenges on their subsequent treatment and quality of life.

Treatment includes topical application of prophylactic antibiotics such as Mupirocin ointment, on a regular basis to minimise the risk. However, resistance to Mupirocin is on the increase therefore alternative therapies are sought.

One alternative therapy is the use of Polyhexanide gel* containing Polyhexanide, known to be effective against Gram – and Gram + bacteria and this is used in this comparison evaluation of patient's 'ease of use' of the two topical applications in the treatment of exit site infections.

Prontosan® (PHMB)

Polyhexanide (PHMB) is a commonly used antiseptic and is now incorporated into a number of dressings. It has a broad spectrum of biocidal activity and a very wide range of uses, including use as contact lens cleansers, mouth washes, cosmetics and extensively in wound care and around ostomies such as gastrostomic nutritional ostomies (PEG sites)(Sidoli 2010), where it is a highly effective agent against a broad spectrum of Gram negative and Gram positive bacteria such as MRSA, Pseudomonas, E.Coli and Proteus Mirabilis (Moore, Gray 2007 ; Davis 2007: Cutting 2010 : Kaehn 2009; Moller et al 2008)

Betaine, the other active ingredient in Polyhexanide gel*, is an alkaloid surfactant that enhances wound cleansing by its effect on increasing solubility of wound coatings inducing physical removal of debris and bacteria and having an effect on biofilm formation. (Cutting 2010)

It is licensed for use throughout Europe and the USA

Objectives

Increased compliance by easier product application should enhance effectiveness ,should the effectiveness be comparable to Mupirocin. This evaluation, therefore, aims to assess patients experiences using Polyhexanide gel* around the PD exit site.

References

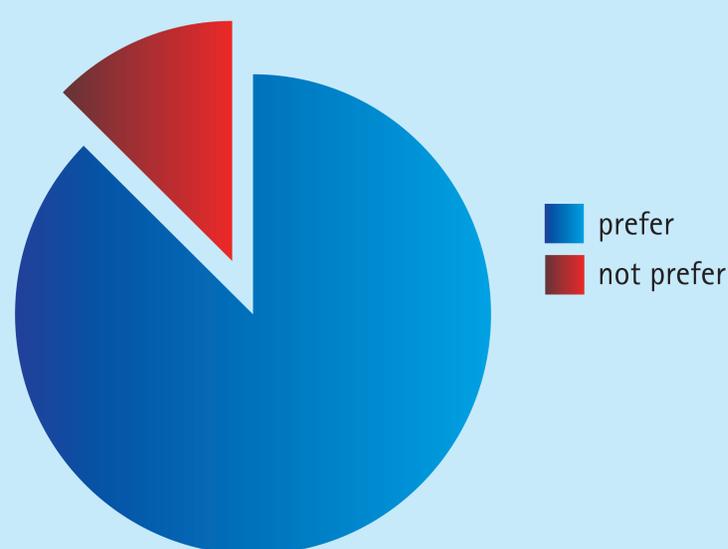
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Methodology

32 patients were randomly selected during their usual Dr's appointment. This included males and females between the ages of 30 – 70 years. They were switched from using Mupirocin ointment to Polyhexanide gel* for their exit- site care. Each patient received clear instructions (written and verbal) of their procedure for changing their Tenckhoff dressings and demonstration on how to use and apply the wound gel for the period of 8 weeks. During this period home visits were carried out for all patients on the treatment to ensure proper usage and application of the product, with follow up after 1-2 weeks and again at 6-8 weeks. They were also given a questionnaire to complete at the end of the period to determine their experience with the gel, preference and to note any adverse reaction experienced.

Results

In this study >78% – (26 patients out of 32) PD patients preferred the Polyhexanide gel* to the Mupirocin ointment.



Common positive comments from patients were that the Gel resulted in less crusting around the exit site and that it was easier to apply than using cotton wool buds required for Mupirocin ointment application. Without exception, 100% found the Polyhexanide gel* 'simple and easy to use' with 'painless application' and 'compatibility with exit site dressing'.

Patient comments

- 'Better and easy to apply' (re Polyhexanide gel*).
 - 'Mupirocin ointment too sticky to apply easily, Polyhexanide gel* is easier'
 - 'less 'crusting' around the site with the gel
 - 'Had redness before which Prontosan cleared'
 - 'Prontosan gel easier to apply'
 - 'Gel easy and clean to apply'
 - 'Gel easier to apply than using cotton buds'
- 5 patients said they would be happy with either treatment.
- 3 patients asked to switch back to Mupirocin reporting side effects of redness, irritation and , although easy to use, found the gel too runny to 'stay in place'. However, the majority favoured Prontosan for the same reasons, ie the fluid consistency made it easier to apply and were reluctant to change back to Mupirocin should it be deemed necessary.

Conclusion

The study demonstrated that Polyhexanide gel* was generally well tolerated. The very high patient preference for Polyhexanide gel* compared to Mupirocin may reflect a 'study' effect, but the specific comments suggested that there are real benefits in using the Polyhexanide gel*. Patients found the gel much easier to apply, with painless application and compatibility with their wound dressings.

Whether Polyhexanide gel* is equally effective as Mupirocin at preventing exit-site infections by Gram negative and Gram positive infections remains to be determined by randomised controlled studies.