Sorbsan® Silver dressings, its affect on wounds colonised with Pseudomonas aeruginosa (PA) and the healing environment

Introduction
Silver is known as one of the oldest antimicrobial agents and was used by the Romans to keep their water potable and sustained silver-release dressings are now well established in the management of acute and chronic wounds. However, we are becoming more aware of the impact of silver-containing wound dressings on bacterial biofilm viability. This report is the result of an investigation into a calcium alginate silver on chronic wounds with a high bacterial burden. An in vitro comparative study demonstrated that the calcium alginate silver had a higher kill rate than the other dressings. This evaluation was in vivo to ensure that the outcomes found in vivo matched the in vitro outcomes.

The aim of this study
was to evaluate the ability of a calcium alginate silver dressing to reduce critical colonisation in 11 patients with a variety of chronic wounds, which were critically colonised with Pseudomonas aeruginosa (PA). These patients were supporting a larger study, which consisted of 47 patients across 11 centres in the UK with evaluating Sorbsan Silver on patients with haemopurulent or haemoserous wound exudate.

Methodology
The criteria for selection of the wounds was a suspected PA, which was identified by a bright green discharge from the wound and the particular odour associated with PA. The judgement was made by the TVN and was confirmed by a wound swab results.

Results
9 of the 11 wounds were assessed and confirmed to be colonised with PA ++++. 2 patients wound swabs confirmed Haemolytic Strept. All wounds contained a multi-flora of bacteria. Colonisation with PA had lowered in 9 of the 11 wounds were assessed and confirmed to be colonised with PA ++++. 2 patients wound swabs confirmed Haemolytic Strept. All wounds contained a multi-flora of bacteria. Colonisation with PA had lowered in each wound by dressing change. This was confirmed by a wound swab and pH levels. At the end of the first week, all wounds had improved greatly with no maceration (patients went from daily dressing change to only 2 x weekly).

Pain was also greatly reduced in 4 of 4 cases with the pain level of 11 reducing to 0. In all other cases the surrounding skin was cleaner and without any maceration. As this evaluation was over 3 weeks, wound closure was not an aim. However, one wound of 4 months duration, did achieve closure. These results confirmed the potential of Sorbsan® Silver to reduce colonisation in wounds.

Conclusion
There are many reasons for delayed healing due to combination of disease, lifestyle and family history. Chronic wounds can cause distress to patients the most common are malodour, pain, increased exudate and loss of sleep. All may be related to the bacterial contamination of a wound. Silver dressings have established their ability to reduce the bioburden in chronic wounds.

This study demonstrates the potential of Sorbsan® Silver to reduce bacterial burden particularly Pseudomonas aeruginosa, B haemolytic Streptococci and improve appearance of the wound.

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References