

Review Group Membership

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Introduction

Intact skin provides a barrier to protect from pathogen invasion. When damage to the skin occurs, the safeguard is broken and the chance of infection is dramatically increased. A major factor, common to all wound care, is the prevention of infection. Antibiotics were once powerfully effective medicines for controlling pathogenic infection. However, the emergence of various antibiotic-resistant organisms has impeded and limited the broad efficacy of antibiotics. Using alternatives to antibiotics to manage wound infection would help overcome the problems of antibiotic-resistance.

As a result, silver is now widely used in wound dressing for controlling infection. As of now, various commercial silver-containing dressings have been developed and these dressings can be made of various materials which determine the property of the dressing. However, there are concerns regarding cell toxicity with exposure to high silver concentration in certain wound dressing.

The new development in wound dressing includes the impregnation of silver to Activated Carbon Fibre (ACF) by Bio-Medical Carbon Technology (BCT™) which was claimed to support the silver component and produce a suitable wound dressing with good antimicrobial properties that also reduces cell cytotoxic affection.

This technology review was requested by Senior Assistant Director of Medical Resources Unit, Medical Development Division, Ministry of Health, Malaysia to review the evidence on BCT™ Antimicrobial Dressing with ACF for wound care.

Objective/Aim

To assess the safety, effectiveness and cost-effectiveness of BCT™ Antimicrobial Dressing with ACF for wound care.

Results and Conclusions

There was very limited and fair quality of retrievable evidence from the scientific databases to suggest that the use of BCT™ Antimicrobial Dressing with ACF is effective in wound care. There was no report of adverse events on the use of this technology. However, it has been approved by United States Food and Drug Administration (US FDA) and classified as class II and class IIb medical device in Canada and Taiwan respectively.

Methods

Literature search was done to search for published articles to assess the safety, efficacy or effectiveness and cost-effectiveness of BCT™ Antimicrobial Dressing with ACF for wound care. The following electronic databases were searched via OVID Interface: MEDLINE (1946 to 20 June 2014), EBM Reviews-Cochrane Database of Systematic Reviews (2005 to May 2014), EBM Reviews-Cochrane Central Register of Controlled Trials (May 2014), EBM Reviews-Database of Abstracts of Review of Effects (2nd Quarter 2014), EBM Reviews-Health Technology Assessment (2nd Quarter 2014) NHS economic evaluation database (2nd Quarter 2014), Pubmed, INAHTA database, HTA database and also in general databases. The last search was run on 20 June 2014.