Autologous skin cell suspensions and partial thickness paediatric burns: The BRACS Trial Protocol

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Introduction

Time to re-epithelialisation is associated with scar formation and burn depth[1]. At the study site, children most commonly present with scald thermal injuries[2]. Management of these often mixed-depth partial thickness burns include silver impregnated dressings, biosynthetic skin substitutes and autologous skin suspensions(Fig 3.) The Biobrane®, RECELL® Autologous skin Cell suspension and Silver dressings (BRACS) trial aims to address the existent clinical equipoise amidst these three modalities. This study will compare the effect of each dressing on re-epithelialisation time in paediatric superficial partial to mid-dermal thickness burns (primary outcome, Fig 1.) and on pain, pruritis, subjective scar severity, scar characteristics, dressing application ease, wound intervention fidelity, and health resource utilisation (secondary outcomes, Fig 2.).

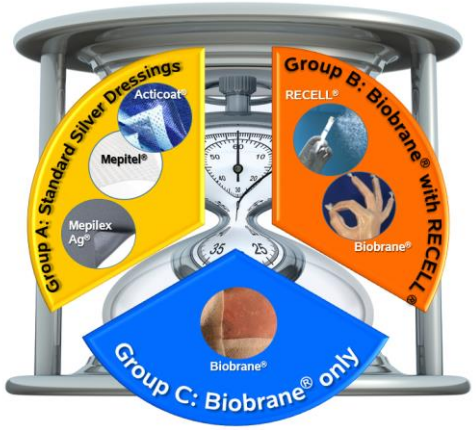

Fig 1. BRACS Trial Primary Outcome

Methodology

- Single-centre, parallel group, randomised trial
- Sample size (n=84)
- Three groups:
  - A. Standard silver dressings
  - B. Biobrane® with RECELL® Autologous skin cell suspension
  - C. Biobrane ® only
- Initial dressing application for all groups will be under general anaesthesia.
- Recruitment started in May 2018
- No results available as yet

Fig 2. Participant timeline. TBSA Total Body Surface Area, COD Change of dressing, HRQOL Health Related Quality Of Life

Real World Implications

Faster burn wound re-epithelialisation, reduces associated scarring risk thus:

- Improved burn survivor health related quality of life
- Enable clinicians to make cost-effective management decisions

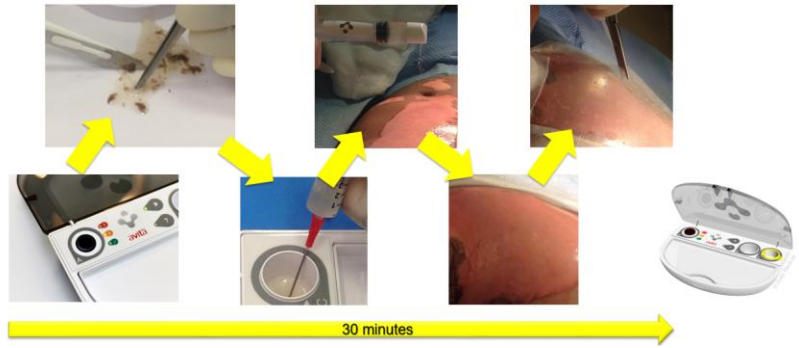

Fig 3. Autologous skin cell suspension preparation

Conclusion

The most effective dressing for paediatric superficial partial and mid-dermal burns is yet to be defined. Study findings could potentially change clinical practice locally and worldwide.

Acknowledgements

- Funding: Avita Medical Industry Research Grant.

Reference: 1. Burns 2006; 32(8): 992-9 2. Burns 2015; 41(3):476-83

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