Even Better Than the Real Thing? The Use of Xenografting in Pediatric Patients with Scald Injury -- A Single-Institution, 10-year review.

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Disclosure/Financial Support: None of the authors has a financial interest in any of the products, devices, or drugs mentioned in this manuscript.

Introduction: Scald injuries remain the most common type of burn in children, but best practices continue to evolve. Over 250,000 children are burned each year in the United States, and 100,000 of these are scald burns.[1] The use of Xenografting in burns has been described as early as 1880,[2] followed by the description of split- or intermediate-thickness skin grafts in 1929.[3] Depending on depth of injury, management can range from non-operative wound care to excision and autografting. In 2004, we introduced xenografting for intermediate partial-thickness wounds at our institution. We report our 10-year experience with pediatric scald burns, comparing Xenografting to Autografting.

Methods: Using prospectively collected data submitted to the National Burn Repository, verified by individual chart review, we identified all patients < 18 years old, admitted to our burn center, who sustained scald burns from 2004-2013. Patients were divided into three cohorts, based on wound closure method (Autograft, Xenograft, Non-Op) and compared by two tailed t-test and chi-square analysis.

Results: 1867 children with scald burns were admitted from 2004-2013. Compared to Autografting, patients who underwent xenografting had a similar TBSA, but lower incidence of hospital-acquired infections (HAIs), shorter ICU and facility stays, less expensive hospitalizations, and decreased development of hypertrophic scar formation or need for reconstruction. However compared to the Non-Op group, Xenografting patients had a larger TBSA, higher cost, and LOS.

Conclusions: Xenografting appears to be a reasonable option for patients with partial-thickness scald injuries. The cost, LOS, HAIs, and ICU days for the Xenografting cohort fell in-between the Non-Op and Autografting cohorts, as would be expected. While non-operative management may be appropriate for small/superficial burns, and Autografting may be required for large/deep burns, xenografting provides rapid wound closure. Xenografting also permits earlier hospital discharge, reduces need for reconstruction, and should strongly be considered as first line therapy for intermediate-depth pediatric scald injuries.

References:

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