Efficacy of “Thick” Acellular Human Dermis (AlloDerm) for Lower Eyelid Reconstruction: Comparison With Hard Palate and Thin Alloderm Grafts

Lower eyelid blepharoplasty carries the risk of lower eyelid malposition, which may require reconstruction with spacer grafts to provide substitute tissue. Mehryar Taban, MD, and colleagues describe a method for reconstruction of lower eyelid retraction using thick acellular human dermis. All patients in this study were treated for lower eyelid retraction after blepharoplasty with subperiosteal midface-lift, middle lamellae scar lysis, and placement of a thick acellular dermis graft. The results of reconstruction with a thick graft were compared with those from a previous study of procedures using a thin acellular dermis graft or a hard palate mucosal graft.

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Modulation of Cutaneous Aging With Calorie Restriction in Fischer 344 Rats: A Histological Study

Multiple lay reports have suggested calorie restriction as a way to achieve longevity and maintain a youthful appearance, 2 desires that have never been more prevalent. In addition, calorie restriction has been used experimentally to increase the life span of laboratory animals and reduce their incidence of pathologic conditions. These reports and results have led Tapan K. Bhattacharyya, PhD, and colleagues to assess the effects of calorie restriction on cutaneous aging in a rat model. They found that several histologic features of rat skin resulting from aging were delayed or prevented by reducing caloric intake and postulate that this phenomenon may be due to altered metabolic pathways elicited by calorie restriction. Clearly, more work needs to be done, but this article presents an interesting model that helps separate environmental effects from intrinsic mechanisms of cutaneous aging.

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Quantitative Study of Tissue-Engineered Cartilage With Human Bone Marrow Mesenchymal Stem Cells

The use of tissue-engineered cartilage holds great promise with its multiple potential applications and advantages over current reconstructive techniques. Cartilage is frequently used for reconstruction in the head and neck region and has created great enthusiasm for tissue-engineered cartilage. Yonggang Pang, MD, and colleagues have used human bone marrow mesenchymal stem cells (hMSCs) to further the quest for clinically applicable tissue-engineered cartilage. Their study assessed the number of hMSCs that could be harvested from bone marrow aspiration and the expansion and induction time that would be required to construct a piece of cartilage 1 to 1.5 cm² in area and 2- to 3-mm thick. They constructed tissue-engineered cartilage using hMSCs after chondroinduction by seeding hMSCs onto polyglycolic acid mesh and implanting them into nude mice. Cartilage formation was confirmed grossly and using histologic techniques. Since hMSCs have a high expansion ability, they will provide a useful alternative to chondrocytes for seeding matrices in future studies on cartilage tissue engineering.

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Functional Recovery After Facial and Sciatic Nerve Crush Injury in the Rat

Tessa A. Hadlock, MD, and colleagues increase our understanding of nerve regeneration after crush injury. Their study compares the rates of facial and sciatic nerve regeneration in Sprague-Dawley rats that were subjected to crush injuries. Facial nerve recovery assessment was determined by blink reflex and vibrissial action, which has been demonstrated to be a consistent measure of facial nerve recovery. They also identified a predictable course of 1.5 to 2.4 mm/d for facial nerve recovery after crush injury.

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This issue’s Highlights was written by DeWayne Bradley, MD.