roup 2nd World Congress on Cers Cell Science & Stem Cell Research Conferences Accelerating Scientific Discovery

November 12-14, 2012 Hilton San Antonio Airport, USA

Cloned epidermal stem cells: Preclinical and clinical applications

John J. Wille Bioplast Medical, USA

The growth dynamics of cloned epidermal keratinocytes were studied.¹ The average percentage proliferation of clones among L seven neonatal foreskin-derived clones was 68.1 ± 8.8(SEM); the average percent proliferation for the adult skin-derived clones was 30 per cent. The average population generation time of seven neonatal cultures between days 4 and day 6 of log phase of growth was 24.8 hours \pm 2.2 (SEM); the doubling time for adult skin culture was 48 hours. Epidermal stem cells cloned from adult human subjects showed no differences in a 24-hour average population generation time for early passage secondary cultures from donors ranging between 26 and 82 years of age. A successful clinical trial² was conducted on patients with chronic venous stasis leg ulcers using our serum-free cloning technology to form cultured epidermis autografts (CEA) for skin grafting in a prospective randomized unbalanced clinical trial in conjunction with wound-area debridement and a four-layer compression wrap (N=10) compared with wound-area debridement and a four-layer compression wrap alone in patients with hard-to-heal leg venous stasis ulcers (N=5). The average time to wound closure for the grafted wounds was 4.1weeks for 80% (8/10) of the cases that closed in 12 weeks compared with 12 weeks for the one closed in the control case. In summary, our serum-free cloning and culture technology proved effective; it excels in production of viable and copious amounts of autologous tissues derived from adult stem cells of oral-gingival, tracheal, mammary, corneal and uroethelial tissues. All have already been reduced to practice

Biography

Dr. Wille is the founder and President of Bioplast Medical/EpiXpress, Inc., a biotechnology company that manufactures a living autologous tissue graft. Dr. Wille received a BA in zoology from Cornell University, and a doctoral degree in genetics/and cell biology from Indiana University. He holds a postgraduate certificate in experimental pathology from the Mayo Medical School. He served as a postgraduate fellow at the Argonne National Laboratory, and the University of Chicago. Dr. Wille held positions of Professor at the University of Cincinnati, and the Louisiana State University. Before joining ConvaTec, a Bristol Meyer Squibb company as its director of skin and wound care research. Prior to that, he was section head of cell biology at Southern Research Institute. He has published more than 200 scientific papers, articles and books and holds more than 20 issued U.S. and International patents

jjwille@aol.com