Microneedle and iontophoresis based products

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In recent years, there has been increasing interest in active energy or minimally invasive technologies for cosmetic use and also to expand the scope of transdermal delivery to hydrophilic molecules and macromolecules. These molecules do not normally pass through the skin unless enabling technologies are used. Recent innovations in these technologies, especially for iontophoresis and microporation, will be presented. Microporation involves the creation of micron-sized micropores or microchannels in the skin which can then allow the transport of water soluble molecules. Skin microporation can be achieved by microneedles or by using thermal, laser, or radio-frequency ablation. Iontophoresis involves the application of small amounts of physiologically acceptable currents to drive ionic molecules into the skin. Technology behind products on the market such as Biobliss™, Dermaroller™, WrinkleMD™ and Zecuity™ will be discussed. The author has done significant research with both techniques in his laboratory with over 50 different drug molecules and cosmeceuticals.

Biography

Ajay K Banga is Professor and Department Chair in the Department of Pharmaceutical Sciences at the College of Pharmacy and Health Sciences, Mercer University, Atlanta, GA. He also holds an Endowed Chair in transdermal delivery systems. He has a PhD in Pharmaceutics from Rutgers University, NJ. He has over 250 publications and scientific abstracts to his credit. He currently serves on the Editorial Board of 10 journals, as Associate Editor for one journal, and has served as the Editor-in-Chief for a Drug Delivery Journal. He has written three single author books and over 10 book chapters in the areas of transdermal delivery and protein formulation/delivery. He is a Fellow of the American Association of Pharmaceutical Scientists.

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