Medical Barrier Cream Superior in Cutaneous Healing

Clinical Assessment Results

INTRODUCTION/STUDY METHODS

Two split-face studies show superior cutaneous healing. One split-face study consisting of fifteen consecutive patients who underwent Sciton™ laser resurfacing for extrinsic aging compared the healing rates and patient's preference between Epionce® Medical Barrier Cream (MBC) and a regimen of acetic acid soaks followed by Aquaphor™ or Polysporin™. The protocol consisted of MBC applied to the right half of the face immediately post-op (time 0) and 4, 8, 24, 36 and 48 hours after resurfacing. Aquaphor or Polysporin was applied to the left half immediately post-op (time 0), then after a 15 minute acetic acid soak at 4, 8, 24, 36 and 48 hours. A generous coat of 3 medium pea-sized dabs was applied to each side of the face. A board-certified dermatologist assessed all the patients at 48 and 72 hours for re-epithelialization, erythema and patient preference.

The second split-face study the primary ingredient component of the Medical Barrier Cream, EpiB Complex, was assessed. In the eleven patient study, the stratum corneum was removed. For 5 patients it was done with tape stripping, and for 6 with chemical peel. 100% EpiB Complex was applied to half of the face, and 100% petrolatum was applied to the other half.

RESULTS

In the first split-face study the Medical Barrier Cream improved re-epithelialization and visibly reduced erythema faster than Aquaphor or Polysporin in 75% of the patients. Additionally, 100% of the patients preferred the feel and ease of application of Medical Barrier Cream over the ointments.

In the second study, the EpiB Complex induced rapid normalization of stratum corneum barrier function, as measured by a reduction in transepidermal water loss (TEWL). After complete destruction of the stratum corneum, EpiB produced an 89.6% reduction of TEWL 45 minutes after application compared to 43.1% reduction with application of 100% petrolatum. By 2 hours after resurfacing, the stratum corneum barrier had completely normalized with the EpiB Complex, yet petrolatum had reduced TEWL only by 55%.

DISCUSSION

The lack of total permeability barrier normalization prevents feedback inhibition of fibroblasts predisposing the skin to hypertrophic scars. The lack of complete follicular occlusion by MBC markedly reduces the risk of occlusive folliculitis, miliaria and pruritis, all of which may occur frequently with any Aquaphor regimen. Moreover, clinical resolution of extrinsic aging is also expected to be maximized because the rapid barrier reformation prevents ingress of proinflammatory environmental insults, which activate matrix metalloproteinase synthesis, thus potentially reversing some of the expected benefits of the resurfacing.

Epionce MBC is based on a recent understanding of the physiological activity of the stratum corneum. Its hydrolipid structure is the permeability barrier that allows the human aqueous body to interface with the arid terrestrial environment. This barrier consists of inter locking proteinaceous anucleate corneocytes imbedded in lipid lamellae. The key lipid groups for permeability barrier function are cholesterol, ceramide and free fatty acid. For normal barrier function, these components must be present in equimolar ratios. After complete removal of the stratum corneum by any method, two reparative processes are activated: acute inflammation and synthesis of the three key lipid groups. Partial barrier disruption caused by any environmental insult also activates these processes to a lesser extent. Multiple scaly cutaneous diseases are characterized by an incompetent permeability barrier. If the lipid repair process is blocked or decelerated due to continued environmental insult or any underlying genetic or metabolic disorder, the inflammatory response becomes a chronic one, which causes the release of biologic response modifiers that activate destructive enzymes and other factors.

Statistics show that up to 70% of Caucasian Americans have compromised permeability barriers. Dr. Carl Thornfeldt, CEO/CSO and Founder of Episciences, Inc., in collaboration with other researchers, discovered that a blend of the three key barrier lipids in a 3:1:1 ratio, with cholesterol or free fatty acid as the dominant lipid, stimulates regeneration of the lipid lamellae to optimum permeability. Episciences, Inc. has discovered a method to upregulate lipid repair by stimulating normal processes, which increase the number and size of lamellar bodies and their rate of exocytosis. This mechanism accelerates release of the immature lipid lamellae into the stratum granulosum-stratum corneum intercellular space, which are matured into the three key lipid groups by hydrolysis and activated by the acid mantle. This maximum reparative accelerating system is formulated in the Epionce MBC. Botanical extracts provide the key barrier lipid precursors, regulatory lipids and metallic moieties. In addition, endogenous anti-inflammatory omega 3:6 fatty acids in skin specific ratios are also incorporated into the Epionce MBC.

Epionce MBC is a cosmetically elegant, super humectant/emollient product that avoids commonly used sensitizers and irritants. For this reason, it is particularly safe for sensitive skin and scaly skin, which occurs in metabolic or genetic disorders such as atopics and ichthyosis. The anti-inflammatory components do not produce cutaneous atrophy, because they are not natural corticosteroids.

Epionce MBC is ideal for immediate use following destructive procedures such as chemical peels, microdermabrasion and laser resurfacing, as well as to treat sensitive skin and/or refractory scaly cutaneous disorders. Epionce MBC should be used on clean skin one or more times daily, as needed. Once the condition is cleared, Epionce MBC may be used two to four times weekly for maintenance of optimal barrier function.