

Treatment of Aging Skin with Topical Ethocyn®

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INTRODUCTION: Skin aging involves both intrinsic and sun-induced changes. These changes can include skin thinning, altered pigmentation, decreased elastin production, less skin elasticity, cellular atypia, and the development of hyperproliferative lesions. Ethocyn® (BCS Pharma Corp., Los Angeles, CA), is a nonsteroidal, antiandrogen compound which competitively inhibits dihydrotestosterone (DHT) receptor binding in cultured fibroblasts. The topical application of Ethocyn® (6-(5-ethoxy-hept-1-yl) bicycle [3.3.0]octan-3-one) can reverse or improve the aging-related skin changes that are associated with low elastin levels, namely visible skin wrinkling.

OBJECTIVES: The present study was designed to determine the efficacy of various concentrations of Ethocyn® in the treatment of the aging-related skin changes. The present study tested the various dosages, 0.25% versus 0.025%, against control findings. A double blind dosage study protocol was utilized. 20 patient subjects, ages 30-70, all in generally good health, were divided into two dosage groups. Each treatment group received Ethocyn® concentrations of either 0.25% and 0.025%. Ethocyn® was applied to the right or left forearm twice daily for 30 and 60 days. 2 mm punch biopsies were obtained and processed.

METHODS: 2mm skin punch biopsies were collected and stored in 10% neutral buffered formalin. Biopsy cores were embedded in paraffin blocks, sectioned, and stained using Verhoff-Van Gieson protocol for identifying elastin fibers. Quantitative analysis sections were analyzed independently by two blinded technicians. Analysis was performed using an image analysis system. Elastin content change was analyzed for statistically significant changes using a one tailed, dependent variable, t-test.

RESULTS: Both the 0.25% and 0.025% Ethocyn® formulation groups demonstrated a statistically significant increase in elastin content compared to the elastin control group ($P < 0.05$).

CONCLUSION: Ethocyn® (BCS Pharma Corp., Los Angeles, CA), is a nonsteroidal, antiandrogen compound which competitively inhibits dihydrotestosterone (DHT) receptor binding in cultured fibroblasts, resulting in a higher tissue concentration of elastin. The clinical implication is of a smoother, tighter, and less wrinkled skin.



Figure 1.

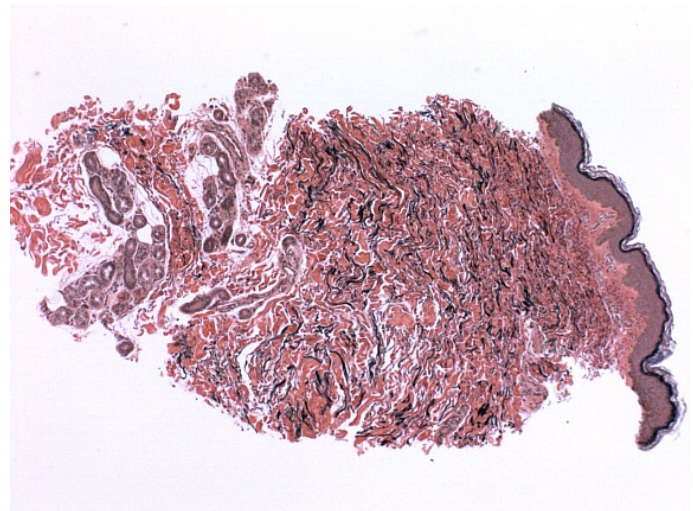


Figure 2.

Attached photographs represent total elastin content, as measured by control (day zero – Figure 1), and day 60 (Figure 2). Notice the visible improved elastin content on slide 2 after 60 day treatment.