

Letter to Physicians

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Dear colleague:

Prior to my Ethocyn research in vitro studies found that Ethocyn, which is a non-steroidal DHT receptor blocker, increased the production of elastin in tissue cultures of skin fibroblasts. I was asked by Chantal Burnison, the chemist who had synthesized this novel and patented compound and the CEO of the company which bears her name, (Chantal Pharmaceutical) if I could test Ethocyn clinically on skin and document its in vivo effects.

As you know, with intrinsic aging there is decreased production of elastin, and with photo aging solar elastosis occurs which leads to accumulation of elastin-staining material within the dermis, but which does not contribute significantly to the elastic tissue network in skin. Therefore, both types of aging changes contribute to loss of skin elasticity and to formation of wrinkle lines. It followed logically that if this compound could stimulate the production of normal elastin in aging skin in vivo it would help to restore the elasticity of youth. In view of the recent reports that post menopausal women who receive hormonal replacement therapy have less wrinkling than those who do not get replacement, it makes sense that a DHT-receptor blocker in skin would be helpful against such aging changes.

My first study involved 20 subjects 40 to 57 years old who applied Ethocyn 5% in an alcohol and water vehicle to their facial skin and to the skin of their ventral forearms. Biopsies of the ventral forearm skin were done at the beginning of the study and at 2 month intervals during a 6 month period. This area was chosen because it is relatively protected from the sun and I was concerned that solar elastotic changes might make it difficult to impossible to quantify the changes in elastic tissue using the computer image analysis techniques utilized in the study.

The relatively high concentration in this pilot study was to be sure that the DHT receptors would all be blocked. The alcohol and water vehicle used in this pilot study was chosen in order to be certain that any beneficial effects would be from Ethocyn rather than from the vehicle. The tissue was stained with Verhoeff's stain so that the elastin stained black. At the end of the study the slides were randomized so that it was not known which slide was from which patient at which time and then photographed through the microscope with a camera which allowed the images to be stored on a computer. Computer image analysis was then performed to determine the percentage of surface area of each slide which took up the elastic tissue stain. After breaking the code it was found that the average increase in elastic tissue was about 100% as measured by computer image analysis. The findings of this study were statistically significant at a level of $p < .001$.

On microscopic examination the quality of the elastin which had been produced was that of the normal collagen seen in youth. Subjects reported that their skin was "smoother,

tighter and less wrinkled". I presented the findings of this study at the American Academy of Dermatology meeting in August 1994, at the 1994 Dermatology Therapy Association meeting, and at UCLA Dermatology Grand Rounds.

The second study used Ethocyn Essence, a liquid form of 0.5% concentration followed by the application of Ethocyn Moisturizing Cream 0.01%. Because the results had been apparent faster than had been anticipated in the first study, this was done as a three month study with monthly biopsies. The subjects ranged in age from 40 to 77 years old and biopsies were also done on 18 to 25 year olds and all were analyzed blindly as with the first study.

The first month elastic tissue results showed a greater than 50% increase and at 2 months the increase was over 100%, with all subjects showing a response. Their skin had become visibly less wrinkled, especially as they would smile, frown and talk, in many cases the skin improved dramatically.

By 3 months there was an even further increase in the average elastic tissue levels. By 2 months the elastic tissue levels were comparable to the levels found in the control group of 18 to 25 year olds (average age 20). The p value for this study was also $<.001$. The evaluation of ultra close-up photographs from the beginning to the end of the study confirmed that the use of Ethocyn improved the appearance at a high level of statistical significance. Safety has been confirmed in both studies, and in other testing. This product is not a photosensitizer, it is nonirritating and it is hypoallergenic. It is completely metabolized within the skin so that none of it is absorbed in an active form.

The results of this study were presented at the International Society for Androgenic Disorders Symposium, the 1995 meeting of the Dermatology Therapy Association, the UCLA Conferences on Aging, and the St. Johns Hospital Dermatology Grand Rounds. The results of this study are enclosed in the [accompanying Tables](http://www.ethocyninfo.com/clnc_table.php) [http://www.ethocyninfo.com/clnc_table.php].

Another study was then done by Stephen Tucker, M.D. and I in which he did the biopsies and evaluated the patients and I did the computer image analysis. This 20 patient study differed in that the biopsies were taken from the dorsal forearms in order to determine whether we could use the computer image analysis technique to evaluate changes in sun damaged skin, or whether my initial concerns that solar elastosis would mask the changes so they would not be perceived by this system. As was feared, at least in this group of Texans, the solar elastotic changes were so great that they did confound the ability of the image analysis technique to quantify any changes. This study did confirm the clinical benefit of the product in that all but one of the 20 subjects was evaluated as improved visibly with the use of Ethocyn on their facial skin.

Ethocyn has been available for use as a cosmetic since late 1994 and many thousands of people have noted improvement as was seen in the studies and as was proven with the computer image analysis techniques used in the studies. In a survey of 176 Ethocyn users which I conducted 76% said that they had noticed significant improvement in their skin.

All but two of these people noted the improvement within the first four months of use. Of those who did not say that they had seen significant improvement at the time of the survey more than half either had been using it less than two months or reported that other people had noticed that their skin had improved.

Ethocyn will not get rid of every wrinkle. However, it can be expected to decrease wrinkles and to make the skin smoother and to have a better texture. The results are especially noticeable with the dynamics of facial expression and speech. For example, frown or smile lines that stay after the expression changes and slowly return to the neutral position, following use of Ethocyn the increased elasticity will allow the skin to snap back into the appropriate position, as it does in younger individuals. The skin should be tighter and less sagging. This is also true for other areas, such as the neck and the backs of the hands. Although fine lines tend to do especially well some individuals see dramatic improvement of deeper lines.

Results begin to be noticed within the first month or two of use in many individuals and within three to four months in virtually everyone. Since the improvement is gradual and may be subtle Ethocyn may be used on one side first, keeping the other as a comparison until the first sign of improvement is seen if the person wants to test its efficacy. In fact the company making Ethocyn has used people who have applied the product only to one side as a major focus of their advertising campaign since that is such an obvious way to show that it really works. In order to maintain the skin elasticity it is necessary to continue to use the treatment.

Ethocyn is hypoallergenic and it is compatible with other products used to treat intrinsic and photo aging changes. It is used by some plastic surgeons before and after face lifts and other such procedures because it provides skin that is more elastic and healthier so that the results are better. It has also been of benefit in conjunction with skin resurfacing procedures for many patients.

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