The Effect of Scarguard on Collagenase Levels Using a Full-Thickness Epidermal Model

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Background: Despite meticulous wound care and surgical technique, hypertrophic and keloid scars continue to develop in certain patients. Efforts to inhibit scar formation have included the use of several agents that target essential mediators of the wound healing process.

Objective: In this study, we investigate the effect of Scarguard (Redrock Laboratories, Great Neck, NY) on the release of procollagenase, the precursor of collagenase, in a full-thickness epidermal model.

Methods: Procollagenase release was assessed by occluding 0%, 30%, and 100% of the surface area of the cell cultures and assaying the subnatant for procollagenase at 0-, 24-, 48-, and 72-hour intervals.

Results: We noted significant increases in procollagenase levels, with the largest increase of 344% occurring in the 100% surface-area-occluded cells at 24 hours.

Conclusions: Application of Scarguard resulted in an appreciable increase in procollagenase levels and collagenase activity in a full-thickness epidermal model. Further studies should be performed to determine whether these findings translate to clinical results. (Aesthetic Surg J 2004;24:542-546.)