Elucidating the pulsed-dye laser treatment of sebaceous hyperplasia in vivo with real-time confocal scanning laser microscopy.


ABSTRACT

BACKGROUND: Several case reports document successful treatment of sebaceous hyperplasia with the pulsed-dye laser. Moreover, noninvasive real-time confocal laser scanning microscopy elucidates the vascular nature of these lesions and their pathophysiologic response to treatment mediated by vessel coagulation.

METHODS: Ten patients with 29 lesions of sebaceous hyperplasia were treated with 3 stacked 5-mm pulses of the 585-nm pulsed-dye laser at fluences of 7 or 7.5 J/cm(2). Confocal imaging was performed before and immediately after treatment, as well as at 2, 4, and 8 weeks of follow-up.

RESULTS: The great majority of lesions responded to one treatment, with complete disappearance in 28%, decrease in diameter in 66%, and flattening in 93%. Although 28% recrudesced after initial involution, only 7% recurred completely. Three lesions became eroded or crusted, and 7 experienced cutaneous depressions before complete healing, but no scarring or pigmentary side effects were noted. Confocal imaging revealed a prominent "crown" of blood vessels surrounding the sebaceous duct and coagulation of these vessels with pulsed-dye laser treatment. However, the vessels reappeared during follow-up, and no noticeable morphologic changes in the sebaceous duct were noted.

CONCLUSION: Vascular targeting of sebaceous hyperplasia can be monitored with real-time reflectance confocal microscopy. Most sebaceous hyperplasia regresses after one treatment with 3 stacked pulses of the 585-nm
pulsed-dye laser.

Whether this response is due to temporary ischemia induced by selective vessel destruction or nonspecific thermal diffusion beyond the vessels from pulse stacking has not been determined.