SUCCESSFUL TREATMENT OF PORT WINE STAINS AND PROLIFERATIVE VASCULAR NODULES COMPLICATING PORT WINE STAINS WITH A LONG PULSED 940 NM DIODE LASER

Albert J. Nemeth
Advanced Specialized Laser Center, Clearwater, FL and Dept. of Dermatology and Cutaneous Surgery, University of South Florida, Tampa, FL

Objective:
To evaluate the efficacy of a long pulse 940 nm diode laser (Dornier MedTech, Wessling, Germany) to effectively treat proliferative vascular nodules complicating Port Wine Stains (PWS), PWS in patients of color traditionally unresponsive to standard modalities as well as de novo and slowly responsive lesions.

Patients/ Methods:
Sixteen patients (9 male; 7 female) with PWS and Fitzpatrick Skin Types I - VI underwent 940 nm laser treatment. The 940 nm diode laser was used with spot sizes of 0.5 - 1 mm, fluences of 178 - 917 J/cm^2 , and pulse durations of 20 - 100 ms. Zimmer rapid air-cooling was used to provide patient comfort during treatment as well as to provide epidermal protection. Treatments were performed at 2-month intervals. The mean patient follow-up period was 22 months. Results were documented photographically.

Results:
All proliferative vascular nodules were either cleared or markedly flattened with one treatment. The 940 nm laser achieved impressive *non-purpuric* clearing or flattening and lightening of all PWS treated. There were no instances of infection or scarring.

Conclusions:
The 940 nm diode laser with Zimmer rapid air-cooling is an efficacious adjunct to high power tunable pulsed dye laser therapy to foster more rapid clearing of vascular nodules complicating PWS. The encouraging results in treating PWS in patients of color, previously resistant lesions, and the complete clearing of some suggest further study using this modality is warranted.