Early Treatment of Port-Wine Stains Deemed Ideal

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GRAPEVINE, TEx. — Treatment with a pulsed dye laser is safe and effective for clearing port-wine stains in children aged younger than 2 years, according to two independent studies presented at the annual meeting of the American Society for Laser Medicine and Surgery.

In the first study, all 49 of the treated patients were aged 6 months or younger. “Our high clearance rates were likely due to the lesions being proportionately small, and the skin (being) thin. This may allow better penetration of the laser into the lesion,” said Dr. Anne M. Chapas, a dermatologist in private practice in New York. She reported on a review of infants who were treated for a facial port-wine stain at a private practice facility from 2002 to 2003. The youngest patient began treatment at age 2 weeks. On average, 24% of each patient’s facial area was involved in the capillary lesion. The V1 dermatome was involved in 71% of the patients, the V2 dermatome in 35%, and the V3 dermatome in 39%; 31% had involvement in more than one dermatome. Periocular lesions occurred in 15% of patients, and scalp involvement affected 14%.

The average laser fluence used was 8.7 J/cm² (range of 7.8-9.5 J/cm²), and patients received an average of nine treatments during the first year. After 1 year of treatment, about 89% of patients were cleared of their port-wine stain. The best response rates were seen in infants in whom the lesion covered less than 20% of the face, which had a 91% clearance rate, and in lesions in the V1 dermatome, which had a 94% clearance rate. Lesions in the V3 dermatome had an 81% clearance rate during the first year of treatment. Infants with lesions in all three facial dermatomes had an 81% clearance rate.

“My goal would be to treat infants as early as 1 month,” but many primary providers do not refer children with port-wine stains at that age, said Dr. Atielle N.B. Kauvar, a dermatologist also in private practice in New York, who presented a second study, a series of nine children aged 10 months–2 years who were treated for port-wine stain on the lower extremities. In this study, the series of nine patients received an average of 8.5 J/cm² (range of 7.5-9.0 J/cm²) using a 10-mm spot size with a 595-nm pulsed dye laser. Patients were treated at 6- to 10-week intervals. All patients developed purpura on their treated skin that resolved within 2 weeks. None developed hypopigmentation, one patient had transient hyperpigmentation. All patients had greater than 75% clearance of their lesions after an average of 5.5 treatments, and most had better than 90% clearance after their final treatment, said Dr. Kauvar, who is also on the dermatology faculty at New York University, New York. Port-wine stains on the buttocks or thighs usually cleared fully after three to six treatments. Lesions on the legs usually cleared after 6-10 treatments. Lesions on the feet were found to be the most refractory, requiring more than 10 treatments.

“Earlier is better because at a very young age most children require fewer treatment sessions and have greater clearing of their lesion,” Dr. Kauvar said in an interview. In addition, treatment with a pulsed dye laser is safe, with no adverse consequences even in young infants.