Unilateral nevoid telangiectasia (UNT) is a rare disease characterized by punctuate and stellate telangiectasias that follow dermatomal distribution. Its etiology remains elusive; no standard treatment currently exists. We describe a 14-year-old Asian female (skin type IV) with UNT, who underwent treatment with long-pulsed 1064-nm Nd:YAG laser and 595-nm pulsed dye laser for her disease.

The patient came to our clinic with linearly arranged, punctate telangiectasias over right side of back, shoulder, and arm (Figure 1). The lesions appeared at the age of 10. The diagnosis of UNT was made based on the clinical manifestations and telangiectasias in superficial dermis (as shown on a histologic exam done previously at another hospital). Angioma serpiginosum is an important differential diagnosis of UNT in this case.

Three sessions of treatment with long-pulsed 1064-nm Nd:YAG laser (GentleYAG Laser; Candela Laser, Wayland, MA, USA) were given with parameters (fluence-spot size-pulse width) of 240 J/cm²-3 mm-10 ms (first week), 240 J/cm²-3 mm-10 ms (second week), and 280 J/cm²-3 mm-10 ms (third week). The interval between each session was 4 weeks. However, there was only slight improvement. Histologic exam performed 2 weeks after the third session revealed marked telangiectasias in papillary dermis (Figure 2).

Next, two sessions of pulsed dye laser with 595 nm wavelength (Vbeam Perfecta; Candela Laser) were given with parameters of 13 J/cm²-7 mm-40 ms (fluence-spot size-pulse width) for both sessions. Significant lightening of lesions (>90%) was observed after the second session (Figure 3). The only adverse reaction was transient purpura that lasted for approximately 2 weeks. There was no hypo- or hyper-pigmentation after treatment.

Both long-pulsed 1064-nm Nd:YAG laser and pulsed dye laser have been shown to be effective in treating vascular lesions. Major et al reported good response with the former for facial and leg telangiectasias. However, it does not seem to be a good treatment modality for UNT for the current case. One possible explanation is that while the 1064-nm Nd:YAG laser beam tends to penetrate to deeper dermis, due to its long wavelength and lesser absorption...
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by superficial chromophores, the telangiectasias of UNT occur in superficial dermis. In addition, the 1064-nm laser beam is better absorbed by deoxyhemoglobin, which is more abundant in deep-seated larger veins rather than in small dilated vessels noted in UNT.

The pulsed dye laser has been shown to have great vascular specificity and clinical effectiveness. For UNT, Sharma et al reported good response while using 585-nm pulsed dye laser in 6 cases (skin types III and IV). The parameters were of 5–7.5 J/cm²-7 mm-0.45 ms (fluence-spot size-pulse width). Three patients (50% of cases) achieved more than 75% lightening of lesions. Among them, two needed at least four sessions of treatment. Five of the six patients had hypo- or hyper-pigmentation after treatment.

In our patient, the 595-nm pulsed dye laser was employed; the fluence was higher and pulse width longer, which could potentially have produced a slower and more thorough vessel heating with decreased post-treatment purpura formation. The response was significant; more than 75% lightening was achieved after the first session, and more than 90% after the second. In addition, there was no post-treatment hypo- or hyper-pigmentation. Our patient had comparable skin type with the Sharma et al patients. However, the reason behind the significant pigment change after treatment in their patients but not ours remains unknown. While their patients were treated with lower fluence and shorter pulse width, racial difference might also have had an effect on treatment outcome.

In conclusion, according to our experience with the current patient, the 595-nm pulsed dye laser is a useful modality of treatment for unilateral nevoid telangiectasia. The long-pulsed 1064 nm Nd:YAG laser may not be the treatment of choice for unilateral nevoid telangiectasia owing to its poorer absorption by oxyhemoglobin.

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References