Unilateral nevoid telangiectasia treated with pulsed dye lase: Use of dermoscopy to monitor the response

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To the Editor: Unilateral nevoid telangiectasia (UNT) is a rare vascular dermatosis characterized by telangiectasia that is distributed in a linear, unilateral pattern. The etiology of this condition is not yet fully understood, although high estrogen levels are thought to be related to its development.[1] Affected patients often resort to treatment because of cosmetic distress. Pulsed dye laser (PDL) therapies have been employed to treat various vascular lesions, such as port-wine stains (PWS), hemangioma, spider angioma, and angiokeratoma. PDL modalities have the advantage of achieving selective photothermolysis, leading to selective vascular injury without unwanted thermal damage to surrounding tissue.[2] Sharma and Khandpur have previously treated six UNT cases with PDL and reported that good to excellent lighting was achieved in five of these cases after 2 to 5 sessions.[3]

A 12-year-old girl presented at our hospital with telangiectasias on her right arm [Figure 1A] and had gradually increased in number over the previous 4 years. Dermoscopy (CBS-908; CBS Inc., Wuhan, China) revealed a vascular structure of numerous small red-dotted, globular vessels [Figure 1B]. Reflectance confocal microscopy (RCM; Vivascope 1500; Lucid Inc., Rochester, NY, USA) revealed dilated vessels inside the papillae, with white and red blood cells flowing inside the black lumen [Figure 1C].

The lesion of this patient was treated using a fast-lamp tunable PDL (Cynosure VLS, Chelmsford, MA, USA). Preoperatively, her lesion was occluded with the local anesthetic cream (2.5% lignocaine and 2.5% prilocaine) for 1 h. The laser parameters were as follows: spot size, 7 mm; fluence, 7.5 to 8.5 J/cm²; wavelength, 595 nm; pulse duration, 0.5 ms. The laser treatments were performed with a single pass with no overlap. Laser pulses were undertaken in association with air cooling (Cryo 5, Zimmer, Germany). Post-operatively, this patient was advised to use strict sun protection and apply a high sun protection factor-35 sunscreen. The procedure was repeated at 6 weeks’ interval, with a total of three sessions.

We observed an immediate laser response of the lesion to the laser treatment and found erythema and purpura of each light spot [Figure 1D]. Dermoscopy of the lesion revealed dominant red-dotted, globular vessels with a reddish background [Figure 1E]. This indicated vascular rupture and extravasation of erythrocytes. RCM also revealed capillary thrombosis in the dermal papilla [Figure 1F], which indicated the coagulation of oxyhemoglobin and destruction of the vessels.

After the first session, the lesion showed 80% lighting. Almost complete cleaning of the lesions had been achieved after two sessions of PDL treatment [Figure 1G], although some very small red-dotted vessels were still visible by dermoscopy [Figure 1H]. After three PDL treatments had been completed; however, these remaining small red-dotted vessels had been removed [Figure 1I]. The lesion thus has a satisfactory clearance and the patient was pleased with the result. An oval to a round pattern of hyperpigmentation remained on the arm [Figure 1J], due to pigmentary side-effects.

UNT represents a unilateral and linear proliferation of superficial telangiectasias and can be congenital or acquired. The acquired type frequently is related to increased estrogens’ production during puberty or pregnancy, from the use of oral contraceptives, or as a result of chronic liver diseases.[1,4] Our current patient had an acquired type of UNT which may have been related to puberty.

Dermoscopy, as a non-invasive tool, can assist clinicians to observe the morphology of vascular structures. It, therefore, enables detailed monitoring and evaluation of the laser treatments and helped to determine the endpoint of these therapies. Moreover, dermoscopy can help to distinguish different vascular-related diseases and infer the depth of the blood vessels, thus acting as a predictive tool for the effects of laser treatment. For evaluating the response to PDL therapy of PWS lesions, the dotted and globule pattern has been considered as superficial patterns that are predictive of a good response to lasers, whilst the
reticular vascular pattern has been regarded as a marker of a poor response to lasers.\[5\] For our current study patient, we undertook PDL therapy because of the dotted and globule vascular pattern of her lesion on dermoscopy. RCM can also evaluate the size and superficial location of the blood vessels. Accordingly, the response to the PDL therapy was promising in this case.

In conclusion, dermoscopy can assist with the pretreatment prediction of PDL treatment efficacy in patients with UNT and can determine the endpoint of this therapy.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient’s parents have given their consent for images and other clinical information to be reported in the journal. The patient’s parents understand that their daughter’s name and initial will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

None.

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