"Chicken-Wire Mesh" Pattern on Dermoscopy of Plexiform Neurofibroma

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Neurofibromas are benign nerve sheath tumors, of which plexiform neurofibroma (PN) constitutes an uncommon variant.[1] Although dermoscopic features of neurofibromas have been described in the literature,[2] dermoscopy of PN has not been well characterized.

A 3.5-year-old female child presented with the chief complaints of swelling around the neck and pigmentation of the neck and chest since birth. The swelling was asymptomatic in nature but gradually progressive in size with the growth of the patient. No other systemic complaints were present. An ill-defined, non-tender, mamillated hyperpigmented swelling was present over the neck and extending over the upper chest and arms of size 12 × 8 cm, having a 'bag of worms' consistency with focal hypertrichosis [Figure 1a-c]. A solitary congenital melanocytic nevus was seen over the chest near the left nipple. Multiple café au lait macules (CALM) (>6) were present over the abdomen and limbs. The patient fulfilled the diagnostic criteria for neurofibromatosis type 1. Dermoscopy of the PN revealed an accentuated pigment network with sparing of the perifollicular area forming a regular arrangement, resembling a "chicken-wire mesh" pattern [Figure 2a], and the CALM showing homogenous brown pigmentation with a perifollicular halo [Figure 2b]. Histopathology showed an ill-defined spindle cell tumor in the dermis with increased melanization of the basal layer [Figure 3a]. The individual cells showed indistinct cell borders, moderate cytoplasm, elongated nuclei with fine chromatin, and inconspicuous nucleoli [Figure 3b]. Immunohistochemistry (IHC) positivity for S100P and SOX10 was noted, confirming the diagnosis of neurofibroma [Figure 3c and d].

Neurofibromatosis is an autosomal dominant hamartomatous disorder, of which neurofibromatosis type 1 is the most common, and it displays neurofibromas, a type of benign tumor, as its hallmark. There are four morphological variants of neurofibroma: cutaneous, nodular plexiform, diffuse plexiform, and subcutaneous.[3] Dermoscopy is a simple and non-invasive modality that helps us better characterize the disease. Various dermoscopic patterns of solitary neurofibromas have been described, including a peripheral pigment network, a peripheral halo of brown pigmentation,

Figure 1: Ill-defined mamillated hyperpigmented swelling over the upper chest and arms (a), neck (b), and nape of the neck (c)

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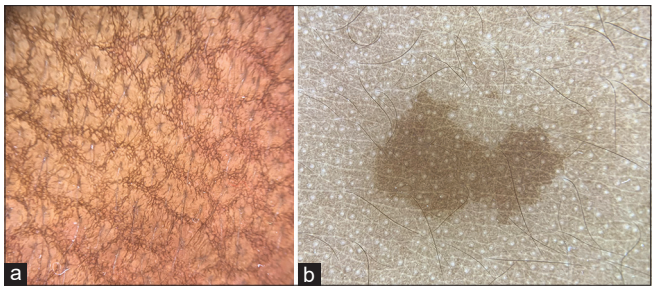

Figure 2: Dermoscopy of (a) Plexiform neurofibroma showing an accentuated pigment network arranged regularly in a "chicken wire" pattern (b) Café-au-lait macule showing homogenous brown pigmentation with a perifollicular halo (Dermlite™ DL4; 10x; polarized mode)

fingerprint-like structures, pink-red structureless areas, fissures, and scar-like areas.[2] Yellow to brown homogenous areas, exaggerated skin markings, and linear branching vessels have also been observed.[4] Dermoscopic features of PN, however, are lacking in the literature.

In our case, we observed a unique pattern on the dermoscopy of PN, which we have labeled as the "chicken-wire mesh" pattern.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials 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

There are no conflicts of interest.

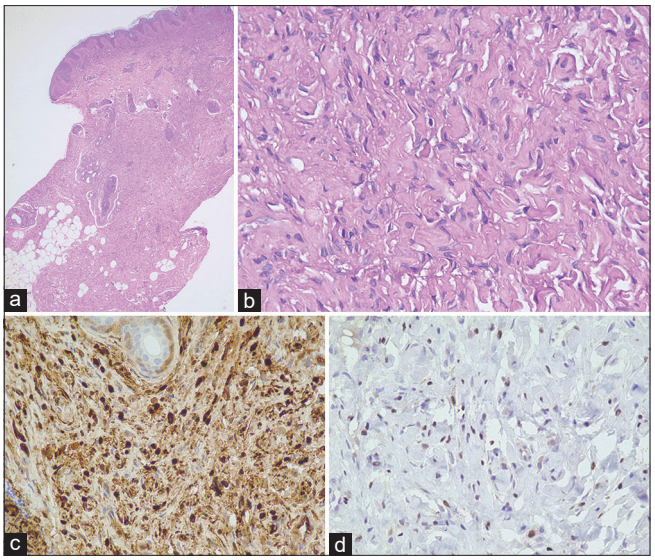

Figure 3: (a) Low-power view of the lesion showing increased basal layer melanization and an ill-defined spindle cell tumor in the dermis. (H and E, 4X) (b) High-power view of the lesion shows that it is composed of sheets of loosely dispersed, bland, spindle-shaped cells. The individual cells have indistinct cell borders, moderate cytoplasm, elongated nuclei with fine chromatin, and inconspicuous nucleoli. A few nuclei are wavy and show buckling (H and E, 40X). (c) High-power view showing focal cells showing nuclear as well as cytoplasmic positivity for S-100P (40X) (d) High-power view showing focal nuclear positivity for SOX-10 in the lesional cells. (40X)

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