Shades of Acquired Dermal Melanocytosis

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Introduction

- Dermal melanocytoses are distinct melanocytic lesions characterized by a blue-gray discoloration of large portions of the skin.
- Subtypes include a wide variety of congenital and acquired, histologically indistinguishable entities characterized by an intradermal proliferation of fusiform pigment-bearing melanocytes in the absence of melanophages.
- The most frequent dermal melanocytoses are of the congenital type and include nevus of Ota, nevus of Ito, and Mongolian spots. These are usually present at birth and occur most frequently in Asian populations.
- Acquired dermal melanocytoses (ADM) occurring later in life and in non-Asian patients are rare. Herein, we present four unusual cases of ADM.

Case Series

1. 57-year-old African American male with acquired dermal melanocytoses of the upper back.
2. 62-year-old Caucasian male with acquired unilateral nevus of Ota with ocular involvement.
3. 73-year-old African American female with acquired bilateral nevus of Ota (Horii’s nevus).
4. 73-year-old Caucasian male with “patch-type” blue nevus of the anterior neck.

Discussion

During embrogenesis, melanocytes are found diffusely throughout the dermis. By the end of gestation, these melanocytes have migrated to the dermoepidermal junction. Defects in migration of pigmented neural crest cells result in deep melanin in the skin and associated tylonyd effect, appearing clinically as dermal melanocytomas. Such defects usually present at birth or appear within the first year of life, most commonly in Asian individuals. Congenitally acquired nevus of Ota and its melanocytes remain stable throughout life, while Mongolian spots generally regress within a few years.

There are seldom reports of dermal melanocytomas acquired in non-Asian adults. The pathogenesis is uncertain but reactivation of ectopic latent melanocytes has been suggested as a possible cause. The dormant dermal melanocytes may be reactivated by exogenous agents such as solar radiation, local inflammation, trauma, drugs, hormone therapy with estrogen or progesterone, or other yet unidentified stimuli. Of note, the individuals presented here were on no medications previously reported to induce ADM.

Treatment

- Therapy options are the same for congenital and acquired dermal melanocytoses.
- Laser is the treatment of choice, using selective photothermolysis to target the chromophore melanin.
- Q-switched laser surgery with an extremely high power, short pulse duration (nanosecond) is the preferred waveform because the melanin target molecules are very small with short thermal relaxation times.
- The Q-switched ruby is preferred over the Q-switched alexandrite and Nd:Yag as it emits radiation with increased absorption and selectivity for melanin.
- Frequency of treatments depends on the pigment intensity. Overall, after 4-8 treatments skin pigmentation is reduced dramatically or removed in 90% of cases, with a less than 1% risk of scarring.
- Less successful treatment methods reported include superficial excision, bleaching agents, chemical peels, and electric cauterization.

References