

**P1417****Anhydrotic ectodermal dysplasia: A case report and discussion of the literature**

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We present a case of anhydrotic ectodermal dysplasia (AED) in a 27-year-old black man. His findings include hypohidrosis, sparse scalp hair, peg teeth, periorbital wrinkling and hyperpigmentation, saddle nose deformity, full everted lips, mild frontal bossing, hoarse voice, and lichenified plaques on the thighs. He denies respiratory infections or heart burn. He has been well managed with topical dry skin care and close followup by dermatology, oral surgery and dentistry. The patient denies any family history of AED and was diagnosed clinically. There are various patterns of inheritance of AED, the most common of which is X-linked recessive, affecting 1/100,000 live born boys. The gene defects and clinical-molecular correlation will be addressed.

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**P1501****An unusual case of increased hair pigmentation in previously grey-white hair**

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Case report: A 73-year-old male presented with an extensive erythrodermic eruption of unknown etiology. It had started on his left thigh and gradually spread to involve his whole body. He had no pre-existing skin or medical problems other than Dupuytren's contracture of his right hand. He was not on any regular medications. Clinical examination at presentation showed erythroderma with flaky scalp and mild bilateral ectropion. His hair color was grey-white on presentation. Blood count and routine biochemistry were normal. Skin biopsies showed spongiosis of the epidermis with an associated lymphocytic infiltration, and there was upper dermal perivascular inflammation with conspicuous number of eosinophils. The appearances were of an eczematous reaction. There was no evidence of pityriasis rubra pilaris or cutaneous T-cell lymphoma.

Treatment and progress: The diagnosis of late onset erythrodermic eczema was made. Initial treatment was with ciclosporin 3 mg/kg, but was stopped after one month because of the development of hypertension and lack of therapeutic benefit. Subsequently, he received azathioprine 2 mg/kg daily and several courses of prednisolone with only partial control of his disease. Narrowband UVB phototherapy once weekly was added to his treatment. During this time he had a marked improvement of his eczema and in addition his hair color, which had been grey-white for 30 years, gradually became dark brown. He denied dying his hair and did not have white roots.

Discussion: Loss of hair color is a normal part of aging. It also occurs in vitiligo, alopecia areata, and cutaneous T-cell lymphoma with repigmentation occurring after treatment. Hair darkening may occur after inflammatory processes or in endocrine disorders including Addison's disease. Drug induced hair hyperpigmentation has been reported in chemotherapy, para-aminobenzoic acid, and nonsteroidal anti-inflammatory drugs. Our patient went from grey-white hair and normal skin to grey-white hair in the setting of erythrodermic eczema and finally dark brown hair with treated eczema. There have been no previous report of azathioprine, prednisolone or UVB resulting in hair darkening. The precise mechanism of increased hair pigmentation in our patient is uncertain, but the combination of treatments for eczema may have contributed to it.

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## HAIR AND NAIL DISORDERS

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**P1500****Treatment of chronic onychodystrophy with intake of carotene-rich food**

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Onychodystrophy refers to the various abnormalities in nail morphology caused by changes in the attachment of the nail plate or changes in nail surface or color. Onycholysis and onychorrhexis are two of the most common manifestations of onychodystrophies seen in the dermatologic clinic. Onycholysis refers to the detachment of the nail from its bed at its distal end and/or its lateral attachments. Onychorrhexis is the nail change that shows superficial longitudinal ridges of furrows with frequent distal splitting. The two are often seen together in patients with onychodystrophy. They are associated with a variety of conditions, such as psoriasis, onychomycosis, lichen planus, alopecia areata, endocrine disorders, drug photosensitivity, etc. Among them, local contact/irritant and trauma are the most common causes. However, chronic idiopathic onychodystrophy is often seen without any associated conditions. The treatment principle of onychodystrophy largely relies on the discovery and verification of the cause. Treatment modalities include avoidance of predisposing cause and trauma, keeping nails short, avoiding trauma, and drug therapy, such as topical and intralesional corticosteroid. However, the preventive treatment methods do little help to the patient because of poor compliance, and the effect of corticosteroid is only temporary. Here, we report 5 patients with a prolonged history of chronic idiopathic onycholysis that improved with 8 weeks of ingestion of carotene-rich food. Carotenoids are natural pigments that are synthesized by plants and are responsible for the bright colors of various fruits and vegetables. Five patients showed improvement of onychodystrophy with daily ingestion of carrot juice. There are no studies regarding the effect of carotene on nail disorder yet. However, with the improvements of 5 patients with onychodystrophy, we may suggest that carotene may have a role in normal epithelial differentiation or keratinization of the nail plate or protection of the nail bed. Because there is no reliable treatment method, we suggest a simple and compliant treatment method consisting of ingestion of carotene-rich food in patients with chronic idiopathic onychodystrophy.

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**P1502****Phototherapy of androgenetic alopecia with low level narrow band 655-nm red light and 780-nm infrared light**

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Background: The therapeutic application of low energy laser has been used for photobiostimulation and low level laser therapy causes an increase of microcirculation of tissue and a reduction in inflammation. However, the effect of low level laser therapy on the stimulation of hair growth has not been investigated.

Object: To examine the effects of 655-nm red light and 780-nm infrared light on patients with androgenetic alopecia (AGA).

Methods: Patients treated their scalp by themselves, using a portable light source (655 nm and 780 nm), and irradiation was performed for 10 minutes once a day. Hairs in precisely defined circle at vertex (AGA region) and occipital sites of the scalp in 24 AGA male patients were evaluated using global photography and phototrichogram. Each circumscribed area of the scalp, centered with a dot tattoo to ensure reproducibility, was photographed just after shaving and two days later, the same area was again photographed. From the photo-images the hair density and anagen/telogen ratio (A/T ratio) were determined by image analyzer program. Each patient was evaluated at 0, 4, 9, and 14 weeks of phototherapy. After 14 weeks, the degree of satisfaction of patients and physicians were assessed.

Result: The results can be summarized as follows: (1) The mean hair counts of baseline were 137.3/cm<sup>2</sup> on the vertex and 153.3/cm<sup>2</sup> on the occiput, with the hair density of the occiput being significantly higher than that of the vertex. (2) The mean hair counts after 14 weeks, at the end of treatment, were 145.1/cm<sup>2</sup> on the vertex and 163.3/cm<sup>2</sup> on the occiput. Therapy with 655-nm red light and 780-nm infrared light significantly increased the density of hairs on both the vertex and occiput ( $P < .005$ ). (3) The ratio of anagen/telogen (A/T ratio) of baseline was 79.7 on the vertex, 89.6 on the occiput and A/T ratio at the end of treatment were 84.7 on the vertex and 91.9 on the occiput, respectively. (4) The number of satisfied patients at the end of treatment was 20 (83.3%). No side effects were reported.

Conclusion: The hair counts was affected beneficially in the vertex and occipital regions of the patients with androgenetic alopecia after 14-weeks of phototherapy with 655-nm red light and 780-nm infrared light.

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