

Integrative Management of Vitiligo

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Introduction

Integrative dermatology is an emerging field: Patients increasingly seek a holistic approach with an emphasis on wellness and the unified body; practitioners, in turn, are recognizing the benefits conferred by a therapeutic plan which includes conventional management as well as evidence-based complementary care, particularly for difficult diagnoses where there is not a reliable path towards cure. Vitiligo, the cutaneous depigmenting disorder which affects 1% of the population and significantly impacts quality of life, is one such diagnosis whereby the disease mechanism is multi-pronged and poorly understood, presentation is variable, and conventional treatment options are inconsistent. Incorporation of dietary supplements, nutritional counseling, non-Western medical practices, and mind-body medicine, then, may attempt to address root “causes” such as stress and inflammation, as well as the emotional sequelae of disease, and serve as a useful integrative approach to care.

Mechanisms of Disease

While some familial clustering is observed with vitiligo, it is thought to be a multifactorial polygenic disorder with both genetic and nongenetic factors. Leading pathogenic hypotheses include autoimmune mechanisms, oxidant-antioxidant mechanisms, trans-epidermal melanocytorrhagy, neural mechanisms, and melanocyte intrinsic defects such as dysregulation of apoptosis, growth factor deficiencies, lipid membrane alterations, abnormal expression of TYRP-1, and increased sensitivity to oxidative stress [1,2].

Traditional Therapy

Conventional treatment of vitiligo depends primarily on pattern and extent of distribution. High potency topical steroids are typically first-line for non-facial skin, with topical immunomodulators (such as tacrolimus) preferred for facial or genital skin, or in some pediatric cases. Additional therapies for widely-affected patients may include phototherapy with narrow-band UVB, or ultraviolet light delivered through a hand piece such as the Excimer laser. Skin grafting and newer surgical approaches such as melanocyte transplantation, suction blister grafting, or mini punch grafting can be tried in patients with stable, localized disease, but are still not universally curative. Total depigmentation is reserved as a last resort.

Integrative Therapy

In light of the potential role of oxidative stress in the etiopathogenesis of vitiligo, some have purported a benefit in consuming an antioxidant supplement pool. Dell-Anna et al. conducted a randomized, placebo-controlled trial where study participants received a daily supplement containing alpha-lipoic acid, vitamins C and E, and polyunsaturated fatty acids, versus placebo; patients were also treated with a standard narrow-band UVB protocol. In two months, 47% of the study patients experienced >75% repigmentation, as opposed to only 18% in the placebo group [3]. Other researchers, however, have put forward an “antioxidant paradox” theory, whereby ingestion of too many supplemental non-food antioxidants may impede the body’s natural ability to fight off pathogens.

Oral ginkgo biloba extract has also been shown to have antioxidant and immunomodulatory properties. In a double-blind placebo-

controlled trial, researchers examined the benefit of oral ginkgo biloba 40 mg TID supplement on controlling the activity of limited-distribution, slowly-spreading vitiligo, and found that disease activity not only halted in a significant proportion of treated patients ($p < 0.01$), but marked repigmentation was also achieved in a significant number of patients in the treatment arm [4]. Similarly, Szczurko et al. demonstrated in an open-label pilot study that 60mg BID of oral ginkgo biloba for 12 weeks halted disease progression in all treated patients [5]. Caution should be exercised in administering ginkgo biloba to patients on anticoagulants due to a potential augmented effect, and there is also the potential for an allergic reaction in patients with sensitivities to poison ivy, mangoes, cashews, and other alkyl-phenol producing plants. Finally, ginkgo seeds (rather than the leaves) contain a higher concentration of ginkgotoxin, which is a neurotoxin that can induce seizures, so supplement sourcing is important.

A broader approach towards antioxidant consumption is that of whole foods and dietary modification. In more general terms, an anti-inflammatory diet that normalizes the intake of pro- and anti-inflammatory essential fatty acids may theoretically help to counter the autoimmune mechanism of disease pathology. As developed by Dr. Andrew Weil at the University of Arizona Center for Integrative Medicine, the “Anti-Inflammatory Diet Pyramid” is instructional on increasing the intake of foods heavy in omega-3-fatty acids while decreasing consumption of omega-6-fatty acids. To date, however, benefits in relation to autoimmune disease, and to vitiligo, remain theoretical.

Non-Western forms of healing such as Traditional Chinese Medicine (TCM) may offer adjuncts or alternatives to patients with severe or refractory disease. TCM is based on the philosophy of balancing the opposing concepts of yin and yang, and regulating the flow of vital energy or “chi” along systemic pathways known as “meridians” in the body. TCM can encompass herbal preparations, physical techniques such as acupuncture, moxibustion, cupping, and combination approaches. According to Szczurko et al. in 2008, daily ingestion of a Chinese preparation known as XiaoBai was compared to a control group with TID intake of 8-methoxypsoralen 10mg, a known treatment for vitiligo. Partial repigmentation (10-50%) was achieved in 95% of study patients at three months, as compared to 79% of controls [6]. Zhang et al. studied the effects of moxibustion/acupuncture combined with narrow band UVB, compared to UVB therapy alone, and found a statistically significant increased amount of repigmentation in the treatment group [7]. TCM must be practiced by trained professionals who are aware of potential toxicities with herbal preparations, and who are licensed to administer physical modalities such as acupuncture.

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Of equal importance to repigmentation in vitiligo therapy is helping patients cope with the emotional and psychosocial aspects of their disease. As age of onset is typically before the age of 30, vitiligo patients often represent the most vulnerable population in terms of physical appearance. Simply asking patients how they are feeling can be an easy first step towards addressing these issues. Instruction on deep breathing exercises and short meditations targeting stress reduction can be very useful, as are guided imagery sessions. For the novice practitioner, there are many instructional websites now available online, but an even greater asset may be the surrounding network of mind-body medicine providers within the community. Building strong collaborative relationships and referral networks is key. Finally, patients should be referred to support groups such as the National Vitiligo Foundation.

Conclusion

In summary, vitiligo remains an elusive disease with several proposed pathogenic mechanisms, particularly implicating autoimmunity and inflammation, with as-yet unreliable and often dissatisfactory treatment options. Incorporating anti-inflammatory supplements and dietary approaches, complementary healing systems, and mind-body medicine to alleviate stress, can yield an integrative approach that provides a greater sense of care and well-being for patients, and a greater store of options and agency for practitioners.

More research is needed on many of these additional healing modalities, and as patients and providers alike impart greater attention to a whole-systems (whole-person) approach, hopefully the impetus for greater study will follow.

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