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Various dermatosurgical interventions in stable vitiligo

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Abstract

It has been reported that the profound psychological effect results in a significant number of subjects under-achieving their potential. Due to the psychosocial milieu of the developing countries being different from that of the developed countries, the stigma associated with vitiligo is possibly more severe in colored races living in most of the developing world. Since the time of Hippocrates (480-377 BC), medicine and surgery were complementary and physicians viewed surgery as a necessary form of treatment in some circumstances, as illustrated in this quotation: What drugs fail to cure that the knife cures, what the knife cures not, that the fire cures; but what the fire fails to cure, this disease must be called incurable. Therefore, surgical modalities have evolved as an option in managing stable vitiligo patients with incomplete repigmentation and those with vitiligo refractory to medical treatment. The period of stability is considered by various dermatologists who have varied from a period of 3 months to 3 years. Various dermatosurgical techniques will be discussed in this presentation performed in day to day dermatosurgical practices such as (1) Punch grafting, (2) Autologous epidermal grafting, (3) Suction blister epidermal grafting and (4) Vitiligo Tattooing

The concept of stability in vitiligo is multifaceted, and no consensus has yet been reached on defining the criteria for this so far. It includes not only clinical aspects of stability but also many recently identified biochemical and ultrastructural correlates of the same. The exact definition of stability in vitiligo is still elusive, and a number of difficulties arise when examining individual patients to decide on the stability of this disease. This concept gains utmost importance when selecting appropriate patients of refractory vitiligo for surgical interventions.

Parameters for Establishing Stability of Vitiligo

History of progression: Absence of new lesions

Extension of old lesions: No extension of old lesions

Koebner phenomenon: Absence of Koebner phenomenon either based on history or by checking for experimentally induced vitiligo

Mini-grafting test or test-grafting: The original test was proposed by Falabella et al . (1) to select patients with stable vitiligo who may respond to melanocyte transplantation. The test was considered positive if unequivocal repigmentation took place beyond 1 mm from the border of the implanted graft over a period of three months. Although this test has been considered as a gold standard for establishing the stability and success of repigmentation, doubts have been expressed over its utility. It has been seen that even when the minigraft test is positive, the disease itself may be unstable.

Apart from clinical features that help in deciding stability of the disease, a number of studies have focussed on evaluating ultrastructural, serological and biochemical parameters to distinguish between stable and active disease. Most of these parameters have evolved as a result of understanding the pathogenesis of the disease and the various hypotheses for the same: Autoimmune hypothesis (serum levels of autoantibodies, T cell subset dysregulation and histological changes), neural hypothesis (serum catecholamines and their metabolites and neuropeptide Y), oxidative stress (oxidant-antioxidant levels) and melanocytorrhagy (ultrastructural studies).

Stability is a hard-to-define concept in the setting of vitiligo, but is nonetheless extremely crucial to the planning of treatment regimens and also in prognosticating for the patient. There are several ways to judge stability in vitiligo, which include clinical features and, recently, many biochemical, cytological and ultrastructural correlates of the same. These recent advances help in not only in prognosticating individual patients but also in elucidating some of the mechanisms for the pathogenesis of vitiligo, including melanocytorrhagy and oxidative damage to melanocytes.

Although no universal consensus exists on the optimum duration of non-progression for the disease to be labelled as stable clinically, recently, the Indian Association of Dermatologists and Venereologists (IADVL) taskforce for standard guidelines of care for dermatosurgical procedures in their consensus recommendations defined stability as 'a patient reporting no new lesions, no progression of existing lesions, and absence of Koebner phenomenon during the past 1 year'. The stark difference in the minimum required period of stability in different studies is depicted in . However, in a recent study comparing the results of suction blister grafting in patients with varying periods of stability, successful repigmentation (> 75%) was seen in 0% of patients with period of stability ranging from 3 months to 1 year, 37.5% in 1-2 year group and 77.8% when period of

In many cases, a clinician's expertise and certain characteristics of the disease may help in deciding the likely course of the vitiligo. A study on 400 patients found that significantly greater progression of disease was seen in patients with a longer disease duration, positive family history, nonsegmental clinical type, Koebner›s phenomenon and mucous membrane involvement. [12] It is important to not completely rely on the patient's reporting of disease activity as this may be erroneous and the clinician must rely on his own documentation or photographic records in doubtful cases.

Clinical parameters for establishing stability

Various authors have emphasized on different clinical criteria for defining stable vitiligo. The most commonly described clinical criteria include the following:

Surgical methods of treatment for vitiligo constitute an important adjuvant for medical therapy. Proper case selection based on the determination of stability of the lesions is very important but no uniform criteria exist for the determination of stability. Hence, in an attempt to build consensus on this issue, the task force suggests the following definition of stability: a patient reporting no new lesions, no progression of existing lesions, and absence of Koebner phenomenon over the past one year. Above all, proper patient counseling about the nature of the disease and the surgery is essential.