

AN INSIGHT INTO MANAGEMENT OF VITILIGO

Introduction

Vitiligo is an acquired chronic depigmentation disorder characterized by circumscribed depigmented macules and patches. Vitiligo is a progressive disorder in which some or all of the melanocytes in the affected skin are selectively destroyed

Types of vitiligo

Localized vitiligo

- Focal: This type is characterized by one or more macules in one area, most commonly in the distribution of the trigeminal nerve.
- Segmental: This type manifests as one or more macules in a dermatomal or quasidermatomal pattern. It occurs most commonly in children. More than half the patients with segmental vitiligo have patches of white hair or poliosis. This type of vitiligo is not associated with thyroid or other autoimmune disorders.
- Mucosal: Mucous membranes alone are affected.

Generalized vitiligo

- Acrofacial: Depigmentation occurs on the distal fingers and periorificial areas.
- Vulgaris: This is characterized by scattered patches that are widely distributed.
- Mixed: Acrofacial and vulgaris vitiligo occur in combination, or segmental and acrofacial vitiligo and/or vulgaris involvement are noted in combination.

Universal

vitiligo

This is complete or nearly complete depigmentation. It is often associated with multiple endocrinopathy syndromes

Skin types in vitiligo

- Type I: This type of skin always burns and never tans. People with pale, fair or freckled skin have this skin type.
- Type II: This type of skin usually burns and sometimes tans. People with fair skin have this type of skin.
- Type III: This type of skin may burn and usually tan. People with light brown skin have this type of skin.
- Type IV: This type of skin rarely burns and always tans. People with olive brown skin have this type of skin.
- Type V: This type of skin has moderate constitutional pigmentation. People with brown skin have this type of skin.
- Type VI: This type of skin has marked constitutional pigmentation. People with black skin have this type of skin.

Management of vitiligo

Tanning of surrounding normal skin exaggerates the appearance of vitiligo, and this is prevented by sun protection. Sunscreens with a sun protection factor of 15 or higher are best.

Systemic phototherapy

Systemic phototherapy induces cosmetically satisfactory repigmentation in up to 70% of patients with early or localized disease. Narrow-band UV-B phototherapy is widely used and produces good clinical results. UV-B narrow-band microphototherapy is therapy targeting the specific small lesions

Psoralen photochemotherapy involves the use of psoralens combined with UV-A light. Treatment with 8-methoxypsoralen, 5-methoxypsoralen, and trimethylpsoralen plus UV-A (PUVA) has often been the most practical choice for treatment, especially in patients with skin types IV-VI who have widespread vitiligo

Laser therapy

Another innovation is therapy with an excimer laser, which produces monochromatic rays at 308 nm to treat limited, stable patches of vitiligo. This new treatment is an efficacious, safe, and well-tolerated treatment for vitiligo when limited to less than 30% of the body surface. However, therapy is expensive

Steroid therapy

Systemic steroids (prednisone) have been used, although prolonged use and their toxicity are undesirable.

A topical steroid preparation is often chosen first to treat localized vitiligo because it is easy and convenient for both doctors and patients to maintain the treatment. The results of therapy have been reported as moderately successful, particularly in patients with localized vitiligo

Topical therapies

Topical tacrolimus ointment (0.03% or 0.1%) is an effective alternative therapy for vitiligo, particularly when the disease involves the head and neck. Combination treatment with topical tacrolimus 0.1% plus the 308-nm excimer laser is superior to monotherapy with the 308-nm excimer laser monotherapy for UV-resistant vitiliginous lesions. On the face, narrow-band UV-B works better if combined with pimecrolimus 1% cream rather than used alone

Topical PUVA is of benefit in some patients with localized lesions

Depigmentation therapy

If vitiligo is widespread and attempts at repigmentation do not produce satisfactory results, depigmentation may be attempted in selected patients

Surgical treatment in localized vitiligo

- Noncultured epidermal suspensions: After the achromic epidermis is removed, an epidermal suspension with melanocytes and keratinocytes previously prepared by trypsinization of normally pigmented donor skin is spread onto the denuded area and immediately covered with nonadherent dressings
- Thin dermoepidermal grafts: The depigmented epidermis is removed by superficial dermabrasion, including the papillary dermis, and very thin dermoepidermal sheets harvested with dermatome are grafted onto the denuded skin.
- Suction epidermal grafting: Epidermal grafts can be obtained by vacuum suction, usually with 150 mm Hg. The recipient site can be prepared by suction, freezing, or dermabrasion of the sites 24 hours before grafting. The depigmented blister roof is discarded, and the epidermal donor graft is placed on the vitiliginous areas.

- Punch minigrafting: Small donor grafts are inserted into the incision of recipient sites and held in place by a pressure dressing. The graft heals readily and begins to show repigmentation within 4-6 weeks.
- Cultured epidermis with melanocytes or cultured melanocyte suspensions: Depigmented skin is removed using liquid nitrogen, superficial dermabrasion, thermosurgery, or carbon dioxide lasers; very thin sheets of cultured epidermis are grafted or suspensions are spread onto the denuded surface

Other treatments

Micropigmentation is another option. Tattooing can be used to repigment depigmented skin in dark-skinned individuals.

Therapeutic algorithm in children

1. **Diagnosis**
Where vitiligo is classical, the diagnosis is straightforward and can be made in primary care but atypical presentations may require expert assessment by a dermatologist
2. **No treatment option**
In children with skin types I and II, in the consultation it is appropriate to consider, after discussion, whether the initial approach may be to use no active treatment other than use of camouflage cosmetics and sunscreens
3. **Topical Treatment**
 - Treatment with a potent or very potent topical steroid should be considered for a trial period of no more than 2 months. Skin atrophy has been a common side-effect
 - Topical pimecrolimus or tacrolimus should be considered as alternatives to the use of a highly potent topical steroid in view of their better short-term safety profile
4. **Phototherapy**
Narrowband (NB) ultraviolet (UV) B phototherapy should be considered only in children who cannot be adequately managed with more conservative treatments, who have widespread vitiligo, or have localized vitiligo associated with a significant impact on patient's quality of life (QoL). Ideally, this treatment should be reserved for patients with darker skin types and monitored with serial photographs every 2-3 months NB-UVB should be used in preference to PUVA in view of evidence of greater efficacy, safety and lack of clinical trials of PUVA in children
5. **Systemic and surgical treatments**
The use of oral dexamethasone to arrest progression of vitiligo cannot be recommended due to an unacceptable risk of side-effects. There are no studies of surgical treatments in children.
6. **Psychological Treatments**
Clinicians should make an assessment of the psychological and QoL effects of vitiligo on children. Psychological interventions should be offered as a way of improving coping mechanisms. Parents of children with vitiligo should be offered psychological counselling.

Therapeutic algorithm in adults

1. Diagnosis

Where vitiligo is classical, the diagnosis is straightforward and can be made in primary care but atypical presentations may require expert assessment by a dermatologist . A blood test to check thyroid function should be considered in view of the high prevalence of autoimmune thyroid disease in patients with vitiligo).

2. No treatment option

In adults with skin types I and II, in the consultation it is appropriate to consider, after discussion, whether the initial approach may be to use no active treatment other than use of camouflage cosmetics and sunscreens

3. Topical Treatment

- In adults with recent onset of vitiligo, treatment with a potent or very potent topical steroid should be considered for a trial period of no more than 2months. Skin atrophy has been a common side-effect
- Topical pimecrolimus should be considered as an alternative to a topical steroid. The side-effect profile of topical pimecrolimus is better than that of a highly potent topical steroid
- Depigmentation with *p*-(benzyloxy)phenol (monobenzyl ether of hydroquinone) should be reserved for adults severely affected by vitiligo (e.g. more than 50% depigmentation or extensive depigmentation on the face or hands) who cannot or choose not to seek repigmentation and who can accept permanently not tanning

4. Phototherapy

NB-UVB phototherapy (or PUVA) should be considered for treatment of vitiligo only in adults who cannot be adequately managed with more conservative treatments, who have widespread vitiligo, or have localized vitiligo with a significant impact on QoL. Ideally, this treatment should be reserved for patients with darker skin types and monitored with serial photographs every 2-3months. NB-UVB should be used in preference to oral PUVA in view of evidence of greater efficacy

5. Systemic Therapy

The use of oral dexamethasone to arrest progression of vitiligo is not recommended due to an unacceptable risk of side-effects

6. Surgical Treatments

- Surgical treatments are reserved for cosmetically sensitive sites where there have been no new lesions, no Koebner phenomenon and no extension of the lesion in the previous 12months
- Split-skin grafting gives better cosmetic and repigmentation results than minigraft procedures and utilizes surgical facilities that are relatively freely available . Minigraft is not recommended due to a high incidence of side-effects and poor cosmetic results. Other surgical treatments are generally not available.

7. Psychological Treatments

Clinicians should make an assessment of the psychological and QoL effects of vitiligo on patients. Psychological interventions should be offered as a way of improving coping mechanisms in adults with vitiligo.

Brain teaser

1. Topical steroid therapy in vitiligo should be considered for a trial period of no more than 2 months

- a. True**
 - b. False
- 2. Topical pimecrolimus is an alternative to a topical steroid
 - a. True**
 - b. False
- 3. NB-UVB phototherapy (or PUVA) is the treatment of choice vitiligo in adults who have localized vitiligo
 - a. True
 - b. False**