Paediatric Vitiligo: A Review

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ABSTRACT

The pediatric vitiligo differs from the adults by showing an increased incidence in females, segmental vitiligo being more common and fewer frequent connections with other systemic autoimmune and endocrine disorders. The child year’s vitiligo is often associated with marked psychological and long lasting impact on the self-esteem of the damaged children and their parents; hence a satisfactory treatment is very essential. Treatment of vitiligo is definitely a tough challenge for the dermatologists' more so in the background of childhood vitiligo. Although multiple therapeutic modalities are available in the therapeutic armamentarium, not all can be used in children. This kind of brief report updates regarding various therapies available in the treatment of the child years vitiligo.

INTRODUCTION

Vitiligo [1], a dermatological [2] anomaly that affects around 0.1-5% of the pediatrics in the world and it can be caused to almost anyone. In most of the cases i.e., in 90% of the vitiligo cases observed till date, the condition shows up at the early teen ages-20’s. It is very rare that it can be occurred after twenties. Chances of occurrence of vitiligo after 20 years is one in a thousand. Vitiligos (Figure 1) are the auto immune diseases caused for unknown reasons. Firstly it appears as a milk white patch and then spreads all the way in radius within 5-5 years. This disease, just like some auto immune diseases [3] is caused when the natural immune system [4] of the body attacks and destroys the colouring cells that is Melanin cells [5] of the body in certain regions, mostly face, hands, fingers and neck areas. Childhood vitiligo is mostly seen in female children than in male children [6].

At present, numbers of immunotherapy having various mechanisms for cancer patients are beneath clinical trials.
History of Vitiligo

- For many centuries, people with vitiligo were not allowed to get jobs and were kept away from getting married and were uninvited to marriages because their old ancient and religious beliefs.
- Vitiligo is also one of the oldest known diseases to mankind. It was referred to as ‘Kilas’ in Rigvedas, which means Deer like skin.
- In The Bible, Book of Leviticus, Chapter 13 it was described as Lepors and then again misinterpreted.
- In Ramayana asa Sweta kustas

Symptoms

- Discoloration of skin.
- Premature Hair on scalp [whitening or greying], eyelashes, eyebrows and beard usually by the age of 35.
- But in children the area where the beard grows becomes white i.e., on the skin.
- Colour loss of tissues of the line inside the nose and mouth and their mucous membranes.
- Armpits, Genitals, Rectum and Navel show discoloured patches.

Causes

The cause is not known. Vitiligo (Figure 1a and 1b) might be an immune system illness. These maladies happen when your invulnerable framework erroneously assaults some a player in your own body. In vitiligo, the safe framework may annihilate the melanocytes in the skin. It is additionally conceivable that one or more qualities may make a man more inclined to get the turmoil.

A few analysts imagine that the melanocytes annihilate themselves. Others surmise that a solitary occasion, for example, sunburn or enthusiastic misery can bring about vitiligo. In any case, these occasions have not been demonstrated to bring about vitiligo.

Figure 1a and 1b: Children’s affected with Vitiligo.
Treatment

In general, there is no particular and a perfect treatment to this, but with the help of the following the patients are being treated to an extent but not completely cured.

Treatments include

- **Corticosteroids**, these have shown much effect in treating the localised vitiligos where it has affected only a certain part of the body. High, low and mid potent corticosteroids are mostly used to treat localised vitiligos [16]. Calcipotriol a synthetic form of vit D3 has showed its potency in treating 50-60% of child vitiligo. Treatments apart, long term usage of this potent drug in children can cause PAX syndrome, Cushing’s syndrome, Tachyphylaxis and Glucoma [17].

- **Systemic treatment**, it includes repigmentation of the depigmented skin. Mostly the oral corticosteroids are used in this type of treatments.

- **Phototherapy**, it’s one of the treatment methods by which more complicated vitiligos are being treated now days. This involves exposure of the depigmented skin to UV radiation which is of the following types, narrow-band UVB, combined UVA plus UVB, and Ultraviolet (UV) A plus psoralen (PUVA). This type has got some limitations because children are prone to fear, the life expectancies and long-term toxicities [18].

- **Surgical Modalities**, not often used and are only to be used when no other treatment is working. These are neither recommended for very young age vitiligo patients nor to very young age stable lesions. Because these may be stable but they eventually grow with the skin [19,20]. There are various methods where the melanocytes are replenished. Minipunch grafts, SBEG, cultured epidermal suspension are the common ones used [21].

- **Cosmetic camouflage**, affected areas are concealed here using different methods. This is just an add-on treatment for the previous methods. As we have already discussed the vitiligo cannot be cured completely at the fullest of its nature [22]. It has to covered with some chemical cosmetic camouflage.

- **Physical support** [23], usually kids who suffer with vitiligo undergo depression, low self-esteem and inferiority complexes. They have to be given physical and mental support. Proper counselling must be given.

- **Depigmentation**, this is done by Monobenzyl ether of hydroquinone.

Risk Factors

The Risk Factors are those factors that induce the probabilities of vitiligo [24-26]. In normal words, these could be the external or internal hazards or substances that trigger the immune system to destroy the pigmenting cells that is the melanocytic cells in the body [27,28]. These could be anything we come in contact with in our day to day life. The main risk factors include:

**Family History**: Family history plays a major roll in the occurrence of vitiligo [29] to an individual. One can inherit this disease only when someone in the family is likely to have it already. Even somewhere in the family tree.

**Stress**: Stress potential, is one of the other main important factor that triggers the vitiligo [30].
**Exposure:** Excess exposure to sunlight, UV radiation and some chemicals may also cause depigmentation or decolouration of melanocytes \(^{[31-35]}\).

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**Types of vitiligo**
Vitiligo is classified into two different types based in the nature and the area of occurrence \(^{[41-45]}\).

1. Segmental Vitiligo
2. Non-Segmental Vitiligo

**Segmental vitiligo:** Segmental vitiligo \(^{[46,47]}\) is mostly caused in the early ages i.e., childhood of the person and stops before maturity/puberty of the person. It mostly affects a single part and usually stops and doesn’t spread after it stops. It occurs on one side of the body mostly face, one leg or one hand etc.,

**Non-Segmental Vitiligo:** Unlike segmental vitiligo \(^{[47,48]}\), non-segmental vitiligo is independent of period, location and age. It can be caused anytime and anywhere. Anywhere on the body and its two snidely spread and no one knows when it will spread up to.

**Prevention**
There is nothing like particular prevention to this disease it can be caused almost through anything and out of anywhere and anytime. But, out of known facts about vitiligo \(^{[49]}\) one must avoid stress, over exposure to sunlight, UV radiation and radioactive chemicals and must have proper sleep \(^{[50-55]}\).

**Complications**
Complications and problems faced by the paediatrics that suffer vitiligo in their day to day life;
- Lack of confidence
- Inferiority complex
- Poor social activities
- Highly prone to sun burn and skin cancer

**CONCLUSION**
We have many techniques to treat vitiligo and many alternatives for each technique. Yet, everything is far away from satisfactory. Complete treatment is not found yet. And the worst part is 15%-30% of the patients don’t respond to any type of treatment at all.

People must be made aware of this disease so that the sufferers are not treated badly or ill-treated.
REFERENCES


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