

Benefits of Electrophoresis in the Treatment of White Spots on the Skin

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Abstract: White spots on the skin, such as vitiligo and hypopigmentation, are diseases that are often accompanied by impaired melanin synthesis. There are several treatment methods available. One of these methods is the photobiological method, which is a widely used method of removing skin blemishes. Melanin can be produced by photosynthesis using ultraviolet light, but this method is time-consuming and has some disadvantages. Burns and other spots appear on the skin, and the patient is severely worn out. Based on this, it is worth recommending electrophoresis to patients to remove these spots. Electrophoresis is a physiotherapeutic procedure that uses an electric current to infiltrate active ingredients into the skin, producing therapeutic effects. This article discusses the effects of electrophoresis on skin improvement in the treatment of white spots.

Keywords: Electrophoresis, Vitiligo, White spots on the skin, Treatment of skin diseases, Physiotherapy, Restoration of pigmentation, stimulation of skin cells, Vitiligo treatment methods, Electrotherapy, Improvement of blood circulation, Depigmentation therapy, Medical procedures for skin, Skin regeneration, electric currents, Electrophoresis in dermatology.

Purpose of the work:

To study the mechanisms of the effect of electrophoresis on the skin, to review the results of clinical studies confirming the effectiveness of the method, to evaluate the safety and tolerability of the procedure for patients, to investigate the possibility of using electrophoresis in combination with other methods of treatment of white spots, such as phototherapy or drug treatment.

Clinical examination method:

Before starting treatment, a complete examination of the patients should be carried out, including dermatoscopy and photography of the affected skin areas. Patients in the main group are given a course of electrophoresis (e.g., 10 to 15 treatments), using a physiotherapy machine and appropriate medications. The duration of each procedure can be from 10 to 20 minutes. After every 5 treatments, control photography of white patches is performed and their change is assessed. The skin condition is assessed based on visual data, as well as questioning patients on subjective sensations (improvement/deterioration of the condition).

Materials of the study:

BTL Electrotherapy. Electrotherapy is one of the functional sections of apparatus physiotherapy. BTL brand electrotherapy devices are characterized by quality and modern design. It is a modern equipment that meets international standards.

Operating principle of the device: BTL electrotherapy is carried out with the help of a device that generates direct or pulsed currents of different frequencies. They affect the tissues, causing the following effects:

- health-improving reactions are triggered;
- the body recovers faster from injuries;
- improves tissue nutrition.

The device generates more than 200 types of currents, such as:

- diadynamic;
- pulsed;
- galvanic;
- pharadic;

Result of the study:

1. Improvement of microcirculation and cellular metabolism: Electrophoresis helps to improve blood circulation in the affected area, which helps to activate cell regeneration and reduce inflammation. This is particularly useful in diseases such as vitiligo where microcirculation may be impaired.
2. Enhancing the action of medications: Medications used during electrophoresis (e.g. Vitamins, mediators, corticosteroids) may be more effective on the affected areas of the skin. This is because the medication goes directly into the cells, bypassing the gastrointestinal tract and liver, which reduces the risk of side effects and increases effectiveness.
3. Anti-inflammatory effect: Electrophoresis can help reduce inflammation in the skin, which helps to reduce disease activity and progression of white patches.
4. Moisturizing and restoring skin pigmentation: Electrophoresis helps to restore the skin barrier and moisturize the skin. In some cases, pigmentation restoration is seen in areas affected by vitiligo.
5. Integrated approach to treatment: Using electrophoresis as part of a comprehensive therapy together with medication, phototherapy and other physiotherapy procedures can significantly improve the prognosis of white patches.

Conclusion: Electrophoresis is a promising method in the treatment of white spots on the skin, such as vitiligo and hypopigmentation. Its use can significantly improve drug delivery to the affected areas, which accelerates the process of pigmentation restoration. Further research will help to determine optimal treatment regimens and improve outcomes with this method.

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