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Short Communication

Application of Laser Blue Light, Red Light with a Wavelength of 405 nm and 650 nm in the Treatment of patients with monkey pox

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Abstract

It is a contagious infectious disease caused by the monkey pox virus that can be caused in some animals as well as humans. Its symptoms begin with fever, headache, muscle aches, lymphadenopathy, and fatigue. After that, seeds are created that create blisters and crusts on it. Its incubation period is about 10 days and the duration of symptoms is usually two to four weeks. Early symptoms of monkeypox include fever, headache, swelling, back pain, muscle aches, and general malaise

Keywords: monkey pox; virus; low level laser; LLLT; lasertherapy; redlaser and blue laser

Introduction:

It is a contagious infectious disease caused by the monkey pox virus that can be caused in some animals as well as humans. Its symptoms begin with fever, headache, muscle aches, lymphadenopathy, and fatigue. After that, seeds are created that create blisters and crusts on it. Its incubation period is about 10 days and the duration of symptoms is usually two to four weeks. Early symptoms of monkeypox include fever, headache, swelling, back pain, muscle aches, and general malaise. With the onset of fever, skin inflammations and rashes develop and then spread to other parts of the body, usually the palms of the hands and soles of the feet. These pimples, which can be very itchy, change shape several times until finally a scar is formed, which later falls off. Lesions can leave scars [1]. **Laser:**Is meant to amplify light by induction emission, and it can be briefly stat-ed that some materials can absorb the radiation energy and then radiate it into the light when this occurs naturally in the atom. Speech is called spontaneous emission, and what you know in nature as light is the result of spontaneous emission [2].

Effects Low-Level-Laser-Therapy of the Blood

One under laser blood irradiation, anti-inflammatory effects was observed that improved the immunologic activity of the blood 1.2. A fundamental finding was the positive influence on rheological properties of the blood which is of greatest interest to surgery, angiology and cardiology in particular 2. A diminishing tendency of aggregation of thrombocytes and an improved deformability of erythrocytes result in an improved oxygen supply and with that to a decrease of partial carbon dioxide pressure, which is particularly relevant to wound healing 3. Furthermore, the activation of phagocytic activity of macrophages was proved in conjunction with structural modifications. A positive effect on the proliferation of lymphocytes and B and T-cell sub populations could be verified too [3]. **Laser and Virus** Fatma Vatansever Together with their research team in the year 2013 they came to this conclusion by testing on viruses and pathogens UVC, blue light, PDI have been shown to be effective in inactivating pathogens without harm [4]. Research on the use of lasers in viral mortality is not widespread, but with a few studies, the effectiveness of laser blue light and LEDs in eliminating the virus can now be studied. Diem ThoHo, with his research team studying 400 nm blue light, concluded thatThe results of this study provide the first evidence that 405-nm LED light has antiviral activity [5]. there are some wavelengths that can decrease microorganisms directly, such as blue, ultraviolet, or violet wavelengths. We can increase these effects by possibly combining this method with another method known as antimicrobial photodynamic therapy (aPDT). According to mechanisms mentioned earlier, we are referring to the capabilities of PBM and photodynamic therapy. The best use is a combination of both methods, as mentioned earlier. The present treatments are focused on virus removal, tissue oxygenation, and reduction or inhibition of cytokine storm caused by severe inflammation. With a combination of these two methods, we can achieve these goals with minimal interference with pharmaceutical methods and battle this disease with biophysical agen [6]. Based on past studies and the effectiveness of low-power red and blue laser light together, we can use it for the recovery of sick patients. In using this method, all factors such as age, gender, weight, number of diseases, specific diseases and duration of the laser should be taken into account. be considered so that we can do this properly. The wavelength used will be 405 nm with a power of 100 milliwatts and a wavelength of 650 nm with a power of 150 to 200 milliwatts. The radiation will be in two forms, venous and local. The blue light is first used to disinfect all areas of the blisters, then We use red light intravenously for 10 to 20 minutes to increase cellular immunity and reduce infection. After using blue light, red light should be irradiated on the blister area to reduce itching and wound effects. Important points if the brain If it is involved, we also need radiation through the nose, and if the amount of white blood cells is low, radiation to the spleen is needed. The duration of laser radiation is from 10 to 20 minutes in 14 sessions, depending on the factors. It will be every other day. Project goals

Reduce infection and prevent transmission

Reducing the recurrence of blisters

Reduce skin itching

Accelerating the healing process of blisters

Reducing the patient's pain and fever

Increasing body immunity and proliferation of T lymphocyte cells with greater stability

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