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Laser-assisted herpes labialis therapy

Simple, fast and long-lasting

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"Quae medicamenta non sanant, ferrum sanat, quae ferrum non sanat, ignis sanat" (What medicines cannot cure, iron cures; what iron cannot cure, fire cures)—When Hippocrates uttered these words around 400 BC, he must have thought of skin diseases, amongst others. What else can be cured by fire when iron and medicine fail? Readers will learn from the following description that the therapy described by Hippocrates can prove successful in the treatment of herpes simplex. And of course we will also reveal the meaning behind his statement, from which both doctor and patient can benefit even more than 2,400 years later.

The term "herpes" is originated in Old Greek and actually described skin ulcers—an idea to which any

person who has suffered from this viral disease, whose symptoms are often located in the lip area, can relate. When untreated, herpes labialis can be acute for up to ten days and undergoes seven phases in its course of disease. Those phase differ widely in their duration and severity.

The first phase is the prodrome. Symptoms are pain, a tingling or burning sensation and sometimes an unpleasant feeling of tension in the yet intact areas of the skin. Not all herpes labialis patients undergo this phase. The second phase, which is called erythema phase, the skin starts to redden. This is followed by painful papules (papula phase). In the vesicle phase, the papula transform into liquid-filled blisters. This liquid contains viruses and bears a great

potential for infection on contact. The blisters burst and form painful ulcers and oozing wounds in the ulceration phase. In the encrustation phase, crusts or scab form and are often accompanied by severe itching. In the last phase, the reddish areas and swellings heal, usually without leaving any scar tissue.

Severe symptoms can be prevented if herpes labialis is treated by an antiviral cream up the beginning of the papula phase. Unfortunately, this disease often seems to break out abruptly without any previous symptoms, in which case the topical treatment with antiviral creams only helps alleviate the symptoms and reduce the risk of infection.

A large portion of the population supposedly carries herpes simplex virus type 1. Often, acute episodes of herpes occur when the immune system is weekend or in phases of severe stress, but also under strong sun exposure. Once manifested, herpes labialis may co-occur with bacterial superinfections which can affect both clinical symptoms and pain.

The HSV-1 virus is easily transferred via saliva or smear infection. Multiple relapses occur mostly in young adults, often at the vermillion border (Fig. 1).

These are the patients who usually present at the dermatologist or dentist. The herpes virus often develops a resistance against antiviral creams and does not respond to the treatment. Allergies, burning or itching sensations or headaches (in oral therapy) are common side effects of these medicines. As they are potential mutagens, their application is not recommended during pregnancy.

Fortunately, these patients can be helped in finding alleviation and fast recovery by laser therapy. However, the soft laser—which is usually recommended for these purposes—alone may lead to frustrating results, as it accelerates the healing process, but this is often neither noticed nor honoured by the patient, who will leave the dental practice with the same results as when he entered it. For this rea-

son, the author has developed a modified treatment protocol in his practice, which leads to an instant pain relief of at least 90% and a Wow-moment for the patient.

For this purpose, we use the programme „Soothing of the pockets“ of our ellexion claros laser and the soft-laser handpiece T4 with a diameter of 4 mm. A pulse power of 1.5 W and a frequency of 1,500 Hz as well as a pulse duration of 444 μ S result in an average performance of 1 W (Fig. 2).

As a first step, we inform the patient that treatment may result in a light warming of the tissues, asking him to give notice when the sensation should become too hot. Then, we decrease the distance to the source of infection under continuous suction, starting from 1 cm and up to 0.2 to 0.5 cm, and palpating it following a grit pattern under constant movement for 30 seconds. Afterwards, we check with the patient and inspect the treated tissue areas. After treatment, the skin may not exhibit any damages caused by laser and the patient should report an unsuspecting temperature sensation. If these standards are not met—in our experience, this happens in approx. 5% of the patients, please reduce the pulse performance to a level the patient can accept and prolong the treatment time accordingly. Afterwards, you can ask the patient to describe the intensity of his complaints compared to his original complaints on a scale from 1 to 10. This way, we continue therapy until we achieve a pain reduction of 90% or often 100% which corresponds to a 0 or 1 on the pain scale. This may lead to a treatment time of up to three minutes. In about 15% of the cases, increasing the pulse performance to 1.95 W may be recommended. This should be done when the patient does not report any improvements of the symptoms after one minute of treatment time. Afterwards, we use the soft laser with the programme “Wound Healing” of our laser or at 100 mW for at least one minute. When doing this, an energy level of 5 to 7 Joules should be applied to the tissue. On the next day, the patient will present at our practice for his check-up (Fig. 3) and another soft-laser therapy

Fig. 1: The HSV-1 virus is easily transferred via saliva or smear infection. Multiple relapses occur mostly in young adults, often at the vermillion border.

Fig. 2: A pulse power of 1.5 W and a frequency of 1,500 Hz as well as a pulse duration of 444 μ S result in an average performance of 1 W.

Fig. 3: Check-up after 24 hours. The patient is free from pain.



Fig. 1

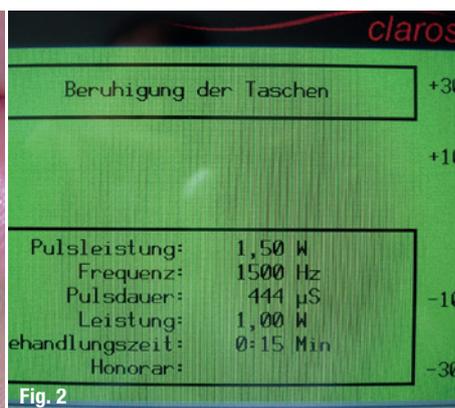


Fig. 2



Fig. 3

session. If the patient is not yet completely free of pain, another repetition of the protocol is indicated.

Following Hippokrates, we may interpret this therapy protocol the following way: If medicine will not cure, the iron (the scalpel) will, if the scalpel will not cure, fire (the laser) will.

Laser can provide a therapy of herpes labialis which is free from pain or side effects, effective and efficient. Its instant pain relief of at least 90% (tension and itching sensation) and the no longer necessary topical therapy with creams leads to a high acceptance in the patients and an increase demand. Our clinical experience supports the findings of a study by the University of Vienna which reports that laser therapy leads to a significant decrease of relapses in cases of aphthae or herpes when compared to conventional treatment with medication.¹

The best-possible time to start this treatment protocol are prodrome or erythema phase. Most patients, however, present at our practice during the vesicle phase. We inform these patients that if their herpes should reoccur, they most react fast and visit our practice during prodrome or erythema phase. Accordingly, practice organisation must be adapted. Our receptionists are informed and give same-day appointments to these patients. Only if these prerequisites are met we can profit from the above-

described long-lasting effects and reduction of relapses.

In conclusion, it can be stated that laser treatment provides instant relief in cases of herpes labialis. If the laser is applied in time, instant pain relief can be achieved. Often, a proliferation of the herpes blisters can be prevented and the duration of the symptoms may be reduced. This form of therapy is pain free and also recommended for children and during pregnancy. Its effects are long lasting.

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Kurz & bündig

Vielen ist unbekannt, dass davon ausgegangen wird, dass ein Großteil der Bevölkerung das Herpes simplex-Virus Typ 1 bereits in sich trägt. Oft tritt ein Herpesschub in einer Phase der geschwächten Immunabwehr, bei Stress oder bei starker Sonneneinstrahlung auf. Diese Patienten werden dann meist entweder beim Dermatologen oder beim Zahnarzt vorstellig. Gegen die oft verschriebenen virustatischen Cremes entwickeln sich schnell Resistenzen des Herpesvirus, der dann nicht mehr auf diese Therapie anspricht. Zudem sind bekannte Nebenwirkungen dieser Arzneimittel Allergien, Brennen oder Reizungen der Haut, bei der oralen Therapie auch Kopfschmerzen. Da diese Medikamente potenziell mutagen sind, wird darüber hinaus von einer Anwendung in der Schwangerschaft abgeraten.

Mithilfe der Lasertherapie kann diesen Patienten jedoch auf einem anderen Weg zu Linderung und schneller Heilung verholfen werden. Der immer wieder für diesen Zweck angepriesene Softlaser allein führt allerdings mitunter zu frustrierenden Ergebnissen. Zwar schreitet der Heilungsprozess schneller voran, dies wird jedoch vom Patienten kaum bemerkt oder honoriert, da er die Praxis mit den gleichen Beschwerden verlässt, wegen derer er sie aufgesucht hat. Deshalb haben wir in unserer Praxis ein modifiziertes Verfahren entwickelt, das sofort zu einer erheblichen Schmerzlinderung und zu einem Aha-Erlebnis beim Patienten führt.

In einer Studie der Universität Wien wurde festgestellt, dass Aphthen und Herpes nach einer Laserbehandlung signifikant weniger häufig wieder auftreten, als bei einer Therapie mit Medikamenten.¹ Diesen Effekt können wir aus unseren klinischen Erfahrungen eindeutig bestätigen. Zusammenfassend lässt sich darüber hinaus festhalten, dass die Lasertherapie in den meisten Fällen sofort bei Herpes hilft. Wird der Laser frühzeitig eingesetzt, erreicht man unmittelbare Schmerzfremheit. Zudem kann oft das Ausbrechen der Herpesbläschen verhindert oder die Krankheitsdauer deutlich reduziert werden. Diese Therapie ist absolut schmerzfrei, natürlich auch für Kinder oder Schwangere geeignet und zeigt nachhaltige Wirkung.

Literature

