# Laser Therapy of Human Herpes Simplex Lesions

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## ABSTRACT

Herpes Simplex is rather a widespread illness caused by human herpes virus generally combining primary lesions with periods of latency. The authors evaluate results of treatment with a low power laser and with classical antivirals. Obtained results are demonstrated in attached tables.

By way of illustration the editor also attached a series of images showing typical history of a herpes lesion treated with a laser.

### INTRODUCTION

Herpes Simplex is an illness caused by the human herpes virus types 1 and 2 that generally present a primary lesion, with periods of latency and a tendency to relapse. It is also known as *Button of fever* or *Bladder of fever*. According to the World Health Organisation (WHO) an international prevalence of about 60 % is observed (1, 2).

An experimental study was carried out, where 232 patients affected by the Herpes Simplex type 1 virus were treated. All patients attended the clinic "Leonardo Fernández" in Cienfuengos during the period of January 2001 to January 2003, with the objective of determining the time of recurrence of labial herpes in the groups, studied before and after treatment, and to evaluate the effectiveness of low power laser in the treatment of the infection of the virus.

### MATERIALS AND METHODS

Two groups were selected (study and control) with 116 patients in each group, distributed and classified according to the clinical stage in which they went to consultation. In the study group the patients were offered treatment with a GaAlAs diode laser (670 nm / 30 mW - 40 sec) in the prodromal stage and the stage of vesicles; or (670 nm /20 mW - 2 min) in the crust stage and in infections infected secondarily. To all these patients radiation among vertebras C2 - C3, where the resident ganglion of the virus is located during the latent periods (670 nm / 30 mW - 30 sec), was also applied.

Control group was offered indicated treatment with antivirals (Aciclovir in cream and in pills) and other paliative therapies.

After having carried out the analysis of the data obtained, the following results were obtained:

Study group n = 116	Recurrence frequency							
	Once a month	Every 2 to 3 m	Every 4 to 5 m	Every 6 months	Once a year	First time	no recurrence	
Before treatment	9	26	58	12	7	4	0	
After treatment	0	0	37	22	25	0	32	

Table 1: Patients of the study group, distribution according to the frequency of annual recurrence of the labial herpes before and after laser therapy.

When analysing Table 1 it is observed that the groups of patients suffering from herpes with high frequencies of recurrence (after being treated with laser an waiting one year prior to evaluation of the effectiveness) reported recurrence for more elongated periods of time and 32 patients did not even have any more recurrence.

Control	Recurrence frequency after receiving treatment								
group n = 116	Once a month	Every 2 to 3 m	Every 4 to 5 m	Every 6 months	Once a year	First time	no recurrence		

Before treatment	7	24	56	14	9	6	0
After treatment	6	21	46	27	14	0	2

Table 2: Patients of the control group, distribution according to the annual recurrence frequency of labial herpes before and after treatment.

In Table 2 the same previous aspects are reflected but in the control group. As it can be observed the cases diminished in number, although discreetely; those that presented more recurrence and of equal number of recurrencies increased in number of patients in the periods of more lingering recurrence. In this group 2 patients reported not having had any more lesions during the analyzed year.

	Recurrence frequency after receiving treatment								
	Once a month	Every 2 to 3 m	Every 4 to 5 m	Every 6 months	Once a year	no recurrence			
Study group (n = 116)	0	0	37	22	25	32			
Control group (n = 116)	6	21	46	27	14	2			

Table 3: Patients of both groups, distribution according to annualrecurrence frequency of labial herpes after receiving treatment.

Table 3 compares both groups as for annual frequency of recurrence after having received corresponding treatment. When analyzing this, superiority of the group treated with laser becomes evident.

Clinical stage		Time of cure									
		First 48 h.		3 to 4 days		5 to 7 days		More than 7 days		Tota	
		Tot	%	Tot	%	Tot	%	Tot	%		
	Prodroma I	26	10 0	0	0	0	0	0	0	26	
Study group	Vesicles	40	95	2	4. 8	0	0	0	0	42	
(n = 116)	Crust	31	91	3	8. 8	0	0	0	0	34	
	Secondar y infection	0	0	13	93	1	7. 2	0	0	14	
	Prodroma I	0	0	25	96	1	3. 9	0	0	26	
Control group	Vesicles	0	0	0	0	9	22	33	79	42	
(n=116 )	Crust	0	0	0	0	24	71	10	29	34	
, 	Secondar y infection	0	0	0	0	0	0	14	10 0	14	
Total		97	42	43	19	35	15	57	25	232	

Table 4: Patients of both groups, distribution with relation to the clinical stage in which we intervened and the time of cure of the same ones.

As it can be observed in Table 4, in the study group 100 % of the prodromal stages, 95 % of the vesicular ones, and 91 % of the crust stages were able to cure during the first 48 hours. Patients with lesions infected secondarily needed more than 48 hours to cure, although they never surpassed 5 days.

These results, although astonishing, are corroborated by authors like Tunér and Schindl, where they highlight that treatment with a laser in the initial stages of Herpes Labialis has a percentage of superior success compared to conventional treatment, besides achieving an almost immediate relief of the symptoms (3, 4).

In the control group remarkable differencies are appreciated when comparing them with that of the study group. Therapy with Aciclovir in early stages (first 72 hours) has b een broadly suitable for many professionals and their use against Herpes Labialis has been studied by some authors (5).

### CONCLUSIONS

Periods of annual recurrence in the study group were prolonged considerably after having received treatment, whilst in the control group such evident changes were not shown.

In the prodromal period the patients treated with laser all healed up in the first 48 hours, whilst those treated conventionally needed from 3 to 4 days to cure.

In the vesicular period and the period of crust, those of the study group cured in majority in the first 48 hours, whilst those of the control group needed more than 5 days.

In infected lesions those treated with laser cured mainly in 3 to 4 days, whilst those treated with medication needed more than 7 days to cure.

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### **ILLUSTRATIONAL IMAGES**



Fig. 1: Herpes Day 1 (occurrence)



Fig. 2: Herpes Day 1+ (first laser treatment)



Fig. 3: Herpes Day 2 (morning, condition after 2 treatments)



Fig. 4: Herpes Day 2+ (afternoon, condition after 3 treatments)



Fig. 5: Herpes Day 3 (afternoon, cured after 4 treatments)

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