Author's response to reviews

Title: Treatment of hemangiomas in children using a Nd:YAG laser in conjunction with ice cooling of the epidermis. Techniques and results

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PDF covering letter
To:
The Editorial Office

**BMC Paediatrics**

Dear Sir,

We would like to thank you for your kind e-mail dated 30.12.2002, that inform us that our manuscript titled “*Treatment of hemangiomas in children using a Nd:YAG laser in conjunction with ice cooling of the epidermis: techniques and results*” has been reviewed by the editorial consultants.

We revise our manuscript according to their constructive suggestions and we submit it for re-evaluation.

We confirm that the submitted manuscript has not been published previously in part or as whole and is not under consideration by any other journal.

All authors are aware of and agree to the content of the paper and their being listed as an author on the paper.

There are no any actual or potential conflicts of interest regarding this manuscript.

Also we would like to respond to their questions:

**Kristen Kelly:**

**Compulsory Revisions**

1) General: We added in the “Discussion” section the follow comments: *Batta et al reported a series from 121 infants with early haemangiomas. They observed that about 40% of these children showed complete clearance or minimal residual sign at age 1 year without treatment.*

2) General: We made any effort in order to correct all the grammatical errors.

3) Patients and Methods: Indeed none of our patients in this study receive any other treatments such as intralesional steroids or interferon.
4) Patients and Methods: Neodym-YAG-Laser MCW 100, 1989 Germany, Aesculap)

5) Results: The parents of the remaining eight children refused this second session either because of social inconvenience (six children), or because they were disappointed with the initial results (two children) and they dropped out from the study.

6) Results: Atrophic scars occurred in six patients (5.8%) In three of them the scars appeared after the second session and were small in size; a surgical excision was performed with good results. In the other three the scars presented after the third session and were large in size; no surgical excision was done. Large hypertrophic scars occurred in two patients (1.9%) after the third session; no surgical excision was accomplished.

Discretionary Revisions

1) Results: All our patients in this study treated under general anesthesia. Our anesthesiologists wanted the postoperative hospital stay for all patients for 1 or 2 days because of the majority of these patients were up to 12 months old and they were from remote rural area.

2) Discussion: We revised the line “10” (13) of discussion section as follows: “The FPDL is recommended as the most effective treatment for port-wine stains and superficial skin teleangiectasia [5,7,20]. Satisfactory results have also been obtained with argon laser [21]. Nevertheless, the restricted effective depth (of only 1-2 mm), and the rather non-specific coagulation of vascular lesion associated, with a risk scaring limits, the use of the argon laser in children.”

3) Discussion: We added in the “Discussion” section the follow comments: “There are several methods of cooling utilized with laser treatment including cryogen spray cooling, contact cooling incorporated into laser hand-pieces and air cooling”

4) Figures: We include six clinical photographs.

James Tunnel:

a) Discretionary Revisions

1. Patients and Methods: Based on our experience we observed that the small and shallow hemangiomas were needed only one session to achieve excellent results. In contrast the bigger and deeper lesions were required repeated treatments to obtain the final results.

2. Discussion: We extended the “Discussion” section
3. Discussion: The small sample sizes of the large hemangiomas \( (n=12) \) affect our results in our study. In small and shallow (height \(<2\) cm, area \(<4\) cm\(^2\)) hemangiomas we have obtained excellent results after only one session of laser treatment. Larger and deeper hemangiomas (height \(>2\) cm, area \(>4\) cm\(^2\)) were reduced by approximately 50% during the first session, while for the residual lesion a second or third session was needed to achieve excellent results.

b) Compulsory Revisions

4. We correct all the grammatical errors that you pointed out in our text.


6. Patients and Methods: We describe in the “Methods” section the system for defining and determining our results as follows: “The treatment results were assessed by measuring the change in size of the lesion, and were classified as follows: “Excellent” 90-100% area reduction, “Good” 50-89% area reduction, “Moderate” 20-49% area reduction, and “Poor” 0-19% area reduction.”

7. Results: The percent reduction was determined as follows: “Lesions were measured in cube centimeters. Results were evaluated according the percentage of decrease relative to the volume of the lesion.”

8. Discussion: We give more details about the studies of Landthaler and Clymer and how our manuscript relates to their papers.

“Landthaler et al. reported a series of hemangiomas treated with different types of laser”….. “They concluded that the Nd:YAG laser is the treatment modality of choice for thick hemangiomas.”… “……..in contrast to Landthaler et al. who observed superficial scarring in all patients who treated by a Nd:YAG laser. They used an output power of 50 W with exposure time of up to 1 second. They performed coagulation in four infants (aged 4-months to 14-months) and observed regression of the lesions in three of them. The fourth child, an 11-month old girl with a pulsating extensive hemangiomas of the lower tip, treated with two laser sessions with no effect on the size of hemangioma. Lesions in this series were very similar in 10 patients included in our study. Our results were excellent in all of them. Moreover, we treated an hemangioma similar to the above described hemangioma of the 11-month old girl with excellent results.”

“…Clymer et al. who reported an average of approximately five treatments to achieve the final result [3]. They used interstitial Nd:YAG coagulation in eight children with
hemangiomas aged 2 months to 8 years. The power settings were between 15 and 25 W, with a pulse length of 0.3 to 1.0 seconds. They observed regression in the size of hemangiomas in all of their patients with good cosmetic results. In our series an average of *1.3* treatments per patient were required to obtain optimal results. When the 72 patients with small and shallow hemangiomas (height <2 cm, area <4 cm$^2$) were removed from the analysis the remaining 30 patients were needed an average of *2.2* treatments to achieve the end results. We believe that the ice cooling of the epidermis with manual compression of ice cube upon the lesion permitted us to increase the power setting, the exposure time, and the depth of penetration of the laser beam”.

9. Discussion: We revised as follow: “…but modified the methods of other authors, who cooling the lesions with cryogen spray prior and during actual irradiation.”

10. Discussion: With the term “massive and deep hemangiomas” we determined the hemangiomas with area >4 cm$^2$ and height >2 cm,) (category Bb, Bc, Cb and Cc according the Table 1)

Very sincerely yours,

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Georgios Charissis