

## Remarks on Complications from laser Endolift use: Case series and literature review

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### Abstract

This Letter aims to make clear about the information reported in the paper "Complications from laser Endolift use: Case series and literature review," published in this journal (2023, 16(03), 023–041, DOI:<https://doi.org/10.30574/wjbphs.2023.16.3.0496>), where authors present a series of complications concerning the use of very different laser devices with different wavelengths, beam profiles, and laser optical fibers without detailing these characteristics or attributing them to a specific manufacturer.

The Tables inserted in the Letter demonstrate the fake relationship between complications and "Endolift®" by Lasermar 1500tm, as asserted by Fabio dos Santos Borges et al.

The paper considering "Endolift®" complications as relative to a multitude of techniques made with "different laser" is misleading; quite the opposite it should distinguish between the outcomes of the official "Endolift®" by Lasermar 1500tm laser protocols, and other systems, very different by technical and methodological points of view.

**Keywords:** Endolift; Endolaser; Endolifting; Laserlipolysis; Complications; Seroma; Steatonecrosis

### 1. Introduction

Dear Editor,

Regarding the paper "Complications from laser Endolift use: Case series and literature review," published in your journal (2023, 16(03), 023–041, DOI:<https://doi.org/10.30574/wjbphs.2023.16.3.0496>), we noticed a series of information reported in a way that lack in transparency and could lead to some misunderstanding about this topic.

We want to draw your attention to the following:

- there is a presentation of complications from the "Endolift®" technique and a direct connection to only one device specifically mentioned, "LASEMAR 1500tm Eufoton srl" (pages 24, and 25).
- The authors present a series of complications concerning the use of very different laser devices with different wavelengths, beam profiles, and laser optical fibers without mentioning those characteristics in detail or referencing them to a specific manufacturer.
- in particular, the different complications are divided into two "sources" of information: (a) complications originating from the analysis of public databases and (b) complications originating from the Brazilian experience.

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- considering that at the date of the publication (and until now), the “LASEMAR 1500tm” manufactured by “Eufoton srl” is NOT yet been used, commercialized, or marketed in Brazil, the article fails to mention that all complications relative to part (b) are a consequence of the use of different devices, materials, and protocols from the only cited.
- in addition, the article fails to mention that in Brazil, the complications are reported by non-medical personnel or those who have not received proper training relative to using “Lasemar 1500tm” of “Eufoton srl”.
- the article, therefore, links complications caused by different devices with different technical characteristics, different protocols, and different optical fibers used by persons (potentially not medical doctors) with different training and protocols used by the only device mentioned, failing to link cause and effect properly. In addition, linking severe contraindications to the only manufacturer mentioned, when reviewing the author's analysis, it is evident that the complications can be very different and much more limited depending on the device used, as later evidenced.
  - review of complications as from the analysis of the international bibliography:

**Table 1** Comparison between complications and device used

Article referenced	complications	severity	Lasemar 1500 used in the publication
ref. 42	side effects noticed were minimal, such as redness (99%), swelling (92%), hematoma (62%), paraesthesia (21%), nervous stupor (0.35%).	All side effects disappeared within 2 to 7 days	YES
ref. 3, 4, 10, 42	mild post-treatment edema and erythema	resolved within a few hours or up to 3 days	YES
ref 14	Three patients reported acne breakouts 7 to 10 days after treatment	resolved within a few days	YES
ref 13	Five women developed small bruises	disappeared after 3 to 7 days	YES
ref 43	A patient who was treated for acne scars had mild hypoesthesia in the cheek area, patients was considered mild to moderate (average score of 3.1 out of 10)	resolved within seven days.	YES
ref 6	three other patients also presented discrete hematomas in the pertussis area	were resolved spontaneously within thirty days	NO
ref 44	out of 261 patients seen for treatment of the eyelid region, there were nine cases of transient hypoesthesia (3.45%) and three of thermal burns to the skin (1.15%).	They further reported that these complications were not observed after decreasing energy delivery to values below 500 Joules for each lower eyelid.	NO

The last sentence analyzing the bibliography cites:

"Despite these reports, some authors did not observe any adverse effects or residual pain in any of their patients during treatments performed with a 980 nm Endolaser [15, 18], as well as no cases of burns, vascular injury, pain or paresthesia during 4 years of care with this technique [6]."

This sentence contains some errors:

- article 15 and 18 refer to the use of 1470 nm laser and not 980 nm (as the study was performed with “Lasemar 1500tm”).
- article 6 is referenced as follows: "no cases of burns, vascular injury, pain or paresthesia during 4 years of care with this technique," but the same cited paper also states, " three other patients also presented discrete haematomas in the pertussis area were resolved spontaneously within thirty days." (This case study is not based on “Lasemar 1500tm” use).

This last unclear sentence, anyhow, does not modify the below conclusions:

- all the literature relative to “Lasemar 1500tm” reports minimal complications, all solved within 7 days.
- all analyzed data relative to other different devices report more extended complications.
  - Review of complications specific to authors experience in Brazil:

As mentioned, these complications are obtained by devices, not cited in the paper, but absolutely not by “Lasemar 1500”, as this device was not in use in that country at the article's writing date.

**Table 2** Comparison between complications and Endolift official protocol by Lasemar 1500

complications reported in the article	Authors' comment on cause	“Endolift®” official protocol by Lasemar 1500
peripheral neuropathy	caused by higher power and use of big fibers or cannulas	no inclusion of high power or cannulas
burns	excess of dose of energy and use of big fibers.	protocols suggested recommend specific timing and clinical end points to avoid burns
burns areas	intraoral thermal injury	procedure is performed not within the range of clinical indications
local infection	use of reusable fibers, or low-quality fibers,	non-reusable fiber
steatonecrosis	use of high power (over 10W)	different set up from protocols
bruises	often occurs due to microcannulas used in inject the tumescent solution	endolift and endoliftX protocols do not include tumescent anesthesia
hyperchromia	excess of power	different set up from protocols
optical fiber breakage	when poor quality fibers are used or when the professional inappropriately “peels” the fiber (cladding removal), exposing a large amount of the core, and since it is more fragile, easily breaks in the process inside the subcutaneous tissue.	The fibers of Lasemar 1500 used for endolift are not peeled they have a different conformation of core cladding and they cannot work if the cladding is removed.

## 2. Conclusion

- All complications are caused by devices different from “Lasemar 1500tm”, as this laser is unavailable in Brazil.
- The complications are more dependent on the devices used (not mentioned in the paper), and the outcome can be highly different due to many factors, including but not limited to:
  - Quality of the optical beam of 1470 nm and its density of energy.
  - Parameters, time on, time off, continues mode.
  - Optical fiber used.
  - Guidelines used and determination of clinical endpoint.

### *Final remark*

The paper considering “Endolift®” complications as relative to a multitude of techniques performed with “different laser” is misleading; quite the opposite it should distinguish between the outcomes of the official “Endolift®” by Lasemar 1500 laser protocols, and other systems, very different by technical and methodological points of view.

We hope to receive a reply from the authors, so allowing the correct interpretation of the information

## Compliance with ethical standards

### *Disclosure of conflict of interest*

No conflict of interest to be disclosed

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