



Uses of the Blue Laser in Otorhinolaryngology

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Editorial

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Summary

The blue laser is among the novel therapeutic options in different areas of medicine. Its usefulness is documented specifically in Otorhinolaryngology.

Objective

To spread the usefulness of the blue laser in Otorhinolaryngology.

Keywords

Otorhinolaryngology; Pathologies; Therapeutic

Editorial

There are different types of lasers currently available, their operation is similar: photons from an energy source (e.g., electric current) cause electrons in a more solid medium (solid, liquid, gas) to enter a higher energy active state.

When the electrons return to the starting state, they emit photons of electromagnetic radiation.

The continuous activation of electrons leads to a chain reaction that forms a beam of emitted photons.

A series of mirrors (optical resonator) focuses and directs the laser beam toward a target tissue.

The wavelength of each emitted laser light is influenced by the characteristics of the gain medium [1].

Recently, a new laser, the so-called true blue, has emerged in practice, described in 2018 in Hamburg University Medical Center, which combines photoangiolytic and cutting properties. This new 445 nm wavelength laser, the so-called

blue laser, demonstrates tissue effects and is also capable of treating subepithelial vessels, can coagulate and carbonize at higher energy levels, and can be used in office procedures by its dimensions [2].

It also produces fewer scars, as published in a rat model where there was a decrease in protein deposition and fibrosis at 90 days compared to other lasers [3] and improves wound healing as reported by Reichelt J, et al. [4].

Miller reports thirty-six cases of office blue laser. A statistically significant improvement was demonstrated in cases of recurrent respiratory papillomatosis and benign laryngeal lesions causing dysphonia, and recommends the following configuration:

10W, continuous super pulse, 60ms on, 120ms off.

Fires laser at a distance of 1 to 4 mm from the target.

Provides a combination of photoangiolysis and cutting [5].

If we compare it with that of the CO2 laser for example, it is bulky, produces more thermal damage and scarring of the epithelium, in addition to being emitted in a straight line, which limits the orientation to structures that cannot be visualized in a direct line of sight [6].

Conclusions

This new laser modality is promising, we know that there are still more controlled studies needed to position its use in different pathologies, we must not lose sight of it, since in the future, it could form part of the usual therapeutic arsenal in medicine and specifically in Otorhinolaryngology.

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