

Adult-onset foveomacular vitelliform dystrophy can PhotoBioModulation therapy (PBMT) be helpful?

PhotoBioModulation therapy (PBMT) represents an emerging area in the treatment of various ocular diseases, including adult vitelliform dystrophy (AVD). AVD, also known as adult-onset foveomacular vitelliform dystrophy, is a rare, typically bilateral, macular disorder characterized by the accumulation of yellowish material in the subretinal space of the macula, leading to central vision loss.

The principle of PhotoBioModulation involves the application of red to near-infrared light to induce a biological response through mitochondrial signalling, leading to improved cellular energy production and reduced oxidative stress. This therapy has been explored in various ocular conditions due to its potential to improve mitochondrial function in retinal cells, which are highly metabolically active.

Current Evidence and Usage in AVD:

- 1. Mechanism of Action:** In the context of AVD, PBMT is hypothesized to enhance mitochondrial function in the retinal pigment epithelium (RPE) and photoreceptors. The RPE plays a crucial role in the pathogenesis of AVD, and improving its function might slow down the progression of the disease.
- 2. Clinical Studies:** There have been limited clinical trials specifically addressing the efficacy of PBMT in AVD. However, studies on other macular diseases, such as age-related macular degeneration (AMD), have shown some promising results in terms of visual improvement and reduction in drusen load, suggesting a potential benefit in AVD as well.
- 3. Treatment Protocol:** PBMT typically involves the use of devices that emit light in the red to near-infrared spectrum. The parameters, such as wavelength, power density, and treatment duration, can vary. It is essential that any treatment protocol is tailored to the specific condition and based on clinical evidence.
- 4. Safety and Side Effects:** PBMT is generally considered safe, with minimal side effects reported. However, given the sensitivity of the eyes, appropriate safety measures and patient selection are crucial.
- 5. Future Research:** Further research is needed to establish the optimal parameters for PBMT in AVD and to understand its long-term effects and efficacy.

Conclusion

It's important to emphasize that while PBMT shows potential, it should not replace established treatment modalities but rather be considered as an adjunctive therapy. Patients with AVD or any other ocular condition should always consult with an ophthalmologist or a specialized retina expert for personalized treatment advice. Additionally, ongoing research and clinical trials will continue to shed light on the role of PBMT in managing AVD and other retinal diseases.