PhotoBioModulation: Promising Option as a Natural, Non Invasive Supplement to Other Types of ART (Assisted Reproductive Technology)

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Abstract

Infertility is a significant issue around the world, affecting more than 70 million couples, according to a recent study. In the USA, for example, 1 in 8 couples are facing fertility issues.

Standard of care suggests Assisted Reproductive Technology (ART) as a general approach, however, the success rate is less than 50%, and the journey often presents with emotional, physical and financial challenges.

For the past 8 years, a number of clinics in Scandinavia has been treating infertile women, using PhotoBioModulation (PBM), to help improve their chances of pregnancy. And with great success: today, the total number of women treated is an estimated 400, of whom 260 (or 65%) have become pregnant.

The article “PhotoBioModulation for Infertility”, published in EC Gynaecology 8.9 (2019): 875-879, illustrated the protocol used, the results seen so far, other applications related to reproductive health (including men), and a discussion on the mechanisms of PBM and cell interaction. Our conclusion is that PBM could be a viable choice as a natural, non-invasive addition to other methods of ART.

Keywords: PhotoBioModulation (PBM); Low Level Laser Therapy (LLLT); Laser Therapy; Cold Laser Therapy; Infertility; Fertility; Reproductive Health; Assisted Reproductive Technology (ART)

Introduction

One of the most basic instincts of any mammal is to procreate and make sure that their genes are carried forward to the next generation, and so not being able to do so can be devastating.

Infertility is a significant issue around the world. In the USA, for example, 1 in 8 couples are facing fertility issues.

Many of them pursue Assisted Reproductive Technology (ART), such as in vitro fertilization (IVF). However, there is no guarantee for success, and even after 5 years of ART, half of the couples remain childless. The journey can often be emotionally, physically and financially challenging.

Since 2012, a number of clinics in Scandinavia has taken a different approach to treating infertility: using PhotoBioModulation (PBM), also known as Low Level Laser Therapy (LLLT), or Laser Therapy. The PBM device being used is the GigaLaser™, produced by PowerMedic ApS (Denmark). In some cases, as a stand-alone treatment, other times as a supplement to ART. Either way, with great success.
By 2016, 8 clinics had reportedly treated a total number of 239 women, resulting in 158 pregnancies (or 66%). The number of clinics offering PBM for infertility has since grown and by 2019, approximately 400 women had been treated, with 260 pregnancies as a result (or 65%).

The women treated are in the age range of 34 to 50 (the latest reported success story was a woman who became pregnant at the age of 48), and the majority had already tried nearly everything to conceive: diet, exercise, counseling, hormonal treatments, IVF, ICSI - with no result.

**PhotoBioModulation as a treatment option**

PhotoBioModulation (PBM) has long been known for being a fast, effective way to enhancing the health of the mitochondria and increasing the amount of ATP.

The explanation for the success rate of PBM for infertility could be that the age-related decline in female fertility is simply a lack of energy (ATP) in the cells. Research shows that laser light (PBM) stimulates the mitochondria to produce more ATP, in cells with too little energy. Thus, laser light can help increase the amount of energy in the oocyte and dramatically improve the chances of pregnancy.

In addition to being natural and non-invasive, PBM is generally a both time- and cost-effective treatment.

For infertility, the course of PBM treatment includes 6 treatments (23 minutes each) during the first 2 weeks of menstruation. Then, when the woman expects to be ovulating, the couple will try insemination (either natural or otherwise). If the first round is not successful, another course of treatments is given. When the result is positive, it typically happens within the first 3 months.

From the first consultation to the actual transfer, one IVF cycle can take 6 - 8 weeks. On average, women who became pregnant through IVF went through 2.7 cycles, according to at least one study.

The cost of a PBM treatment varies from clinic to clinic, however, it is generally significantly less costly than other types of ART. As an example, a course of PBM treatments may cost $600 ($100/treatment), compared to the average cost of one IVF cycle at $12,000 [1-28].

**Conclusion**

Since 2012, 260 (or 65%) out of 400 women with fertility issues have become pregnant, following treatments with PBM.

Before pursuing PBM, many of them had already gone through different types of ART and/or made other changes (e.g. diet, exercise), to no avail.

The explanation for the significant effects of PBM for these women is likely that the age-related decline in female fertility is simply a lack of energy (ATP) in the cells. PBM stimulates the production of ATP, including to the oocyte, plus, helps create a healthy environment in the abdomen, providing the best chances of pregnancy.

PBM could be a viable choice for women struggling with infertility, as a natural, non-invasive addition to other methods of ART.

Furthermore, PBM can be a both time- and cost-effective avenue for these women, and may be a practical first-option, before pursuing other types of ART.

**Conflict of Interest**

This review was prepared by Arne Grinsted, Founder and President of PowerMedic ApS, Denmark (manufacturer of the GigaLaser™ and the PowerLaser™ Series) and PowerMedic ApS’ sister company, PowerMedic Lasers, Inc., USA, as well as Maja Grinsted Hillegass, Sales Manager at PowerMedic Lasers, Inc., USA.

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