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Ozone Sauna Therapy (OST) and Pulsed Electromagnetic Field Therapy (PEMF) delivered via the HOCATT machine could improve endometriosis pain along with lowering serum inflammatory markers

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Abstract

Problem: Endometriosis, a common and challenging condition, is a pelvic inflammatory condition that causes chronic pelvic pain (CPP) and infertility. Even though standard medical therapies and surgeries can help CPP, a large percentage of women remain symptomatic following the conventional treatments. Thus, there is a need to study new non-traditional therapeutic adjuncts in this patient population to improve their quality of life. One non-traditional therapeutic agent is Ozone Sauna

Therapy (OST) which has been shown to have an anti-inflammatory action, but no studies have been performed to assess the efficacy of OST in women with endometriosis suffering with CPP. Another non-traditional therapeutic agent is Pulsed Electromagnetic Field Therapy (PEMF) where one small pilot study has shown that PEMF exposure to women with endometriosis and pelvic pain showed dramatic relief in symptoms.

Method of study: The HOCATT machine, by delivering a combination of both OST and PEMF in one machine, has been shown to improve fertility treatment outcome via in vitro fertilization (IVF) in older women by potentially improving oocyte quality. This study was conducted to assess the effect of the HOCATT machine use on the pain scale in patients struggling with CPP due to endometriosis. In the first study, eight women with endometriosis were administered transdermal and intravaginal OST + PEMF, twice a week for 3 weeks (total of 6 sessions). Once a week, the participants were asked to fill a pain scale. In the second study, 10 women were recruited in order to evaluate the changes in serum inflammatory markers following OST + PEMF exposure after 3-week period using the HOCATT machine twice a week (total of 6 sessions).

Results: The participants had a mean age of 39.7 ± 1.1 years. The results showed a significant improvement in pain scale following the fourth session ($p < .05$) and a significant drop in serum levels of the inflammatory markers CRP ($p = .0438$) and IL-1 β ($p = .0031$) and a significant increase in serum levels of IL-8 ($p = .033$).

Conclusions: This pilot study suggests that a combination of OST and PEMF using the HOCATT machine could potentially represent potential therapeutic adjuncts for women with inflammatory disorders such as endometriosis. There is a definite need for larger cohort studies and even randomized trials in order to better assess the efficacy of OST and PEMF in women with other inflammatory disorders.

Keywords: CRP; IL-6; PEMF; endometriosis; inflammation; ozone.

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