Unpublished results abstract

Endometriosis is a chronic, estrogen-dependent inflammatory disorder affecting up to 10% of reproductive-age women, associated with pelvic pain, infertility, and diminished quality of life. Emerging evidence implicates the vaginal microbiome and estrogen metabolism in the pathogenesis of endometriosis. Ligilactobacillus salivarius CECT 30632, a probiotic strain with known in vitro estrogen-modulating properties, represents a potential therapeutic strategy. We conducted a randomized, double-blind, placebo-controlled clinical trial assessing its effects, alongside standard dienogest treatment, in 40 women with endometriosis. Outcomes included vaginal microbiota composition, serum 17β-estradiol levels, immunological markers, and quality of life assessed by the Endometriosis Health Profile-30 questionnaire. While global microbial diversity remained unchanged, ~20% of participants exhibited individualized microbiota shifts, including transitions from non-Lactobacillus- to Lactobacillus-dominated profiles. No significant group-level changes were observed in immunological markers, though IL-10 levels decreased in 65% of treated participants (p = 0.045). Moreover, serum 17β-estradiol levels were significantly reduced (~50%) in the probiotic group (p = 0.013), with normalization in hyperestrogenic individuals. Clinically, the intervention yielded significant improvements in pain, emotional well-being, and perceived self-control (p < 0.05). These findings suggest that L. salivarius CECT 30632 may complement conventional therapy by modulating systemic estrogen levels and enhancing quality of life in endometriosis management.