16 - Miscellaneous

PO-038 - (23987) - THERAPEUTIC EFFECTS OF D-CHIRO INOSITOL IN A MURINE MODEL OF ENDOMETRIOSIS: A COMPARATIVE MORPHOFUNCTIONAL STUDY

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Background: Endometriosis is a chronic, estrogen-dependent inflammatory disorder characterized by ectopic growth of endometrial tissue outside the uterine cavity, leading to pain, infertility and inflammation. Despite available treatments, the disease remains poorly understood. Estrogen dominance and progesterone resistance play a central role in its pathogenesis.

Objective: This study aimed to evaluate the therapeutic effects of D-chiro Inositol (DCI) in a murine model of endometriosis, in comparison with the progestin Dienogest (DG) and their combination (DCI+DG), focusing on lesion size, ovarian function and tissue morphology.

Materials and Methods: Endometriosis was induced in CD1 mice by transplanting endometrial tissue after PMSG stimulation. Animals were randomly divided into four groups: Control (CTR), DG, DCI and DCI+DG. After 28 days of treatment, lesions and ovaries were collected and were analyzed using histological staining and immunohistochemical analysis using specific markers.

Results: All treatments with DCI reduced lesion size and improved ovarian morphology. DCI, alone or in combination, significantly reduced vascularization (CD34), cell proliferation (PCNA) and inflammation (IL-1β), while enhancing cell adhesion (E-cadherin). DCI showed slightly better results than DG in most parameters.

Conclusions: DCI demonstrated significant therapeutic potential in reducing endometriotic lesions and improving ovarian structure. These findings suggest that DCI may serve as a promising non-hormonal treatment option for endometriosis. Further studies are needed to confirm its efficacy in humans.

Palavras-chave : Endometriosis, D-Chiro inositol, Mouse