Effect of Trypsin Inhibitor Isolated from Enterolobium contortisiliquum Seeds in Endometriosis

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Endometriosis is a chronic condition characterized by endometrial tissue outside uterine cavity. The events of endometriosis have been correlated to those described in cancer, especially those involved in cell proliferation and angiogenesis. Enterolobium contortisiliquum trypsin inhibitor (EcTI) is a Kunitz-type serine proteinase inhibitor assessed in tumor models. This study targets the action of EcTI in endometriosis cells. The human endometriotic and endometrial cells used were provided by Prof. Dr. Ismael Dale Cotrim Guerreiro da Silva, Departamento de Ginecologia, UNIFESP. The primary culture was maintained in DMEM/F12 medium with 5% fetal bovine serum. The effect of EcTI was tested on cell viability (colorimetric assay with MTT (3-(4,5-Dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide), cell adhesion in the presence of collagen I, IV or laminin, migration and cell invasion (transwell assay in chambers with filters coated with matrigel). EcTI did not reduce cell viability significantly, but decreased cell adhesion in the presence of collagen I (25%, 150 µM) and collagen IV (10%, 150 µM). In the presence of laminin, EcTI did not affect the adhesion of endometriotic cells, but inhibited migration (40%, 100 mM, 48h) and invasion (60%, 100 µM, 48h). EcTI is able to interfere with migration, adhesion and cell invasion, key events in the development of endometriosis Word Keys: endometriosis, EcTI, trypsin inhibitor
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