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The expression of ER, PR, PR-B, PS2 in adenomyosis. L. Wei, Y. Zhao, J. Wang. Dept of Gynecology, People's Hosp, Peking Univ, Beijing, China.

Objective: Adenomyosis is a common disease in women, but its pathogenesis is still uncertain. Studies showed high level estrogen has closed relationship with adenomyosis, so we studied the expression of ER, PR, PR-B, and PS2 in adenomyosis.

Design: Basic study.

Materials/Methods: The expression of ER, PR, PR-B, PS2 were detected by immunohistochemical in 25 cases ectopic and 14 cases eutopic endometrium from adenomyosis.

Results: 1. In uterus endometrium, the positive expression rate of ER, PR, PR-B, PS2 is 42.9%, 57.1%, 35.7%, 42.9% respectively; in ectopic endometrium, the rate is 64%, 56%, 44%, 56% respectively. 2. The expression of ER, PR, PR-B, PS2 have no significant difference in two groups. 3. Significant relationship was found between PS2 and ER. 4. The expression of PR-B is mainly located in glands.

Conclusions: Clinical evidences showed sex hormone has various effect on endometrium in different location, accordingly, although both eutopic and ectopic endometrium express the ER, PR, PR-B and PS2, maybe sex hormone regulate them in different ways. Besides this, receptor isoforms may have diverse biological characters.

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P-70

The function of extracellular and their receptors in the pathogenesis of endometriosis. P. Klemmt, J. Carver, P. Koninckx, S. Kennedy, D. Barlow, H. Mardon. Nuffield Dept of Obstetrics and Gynaecology, Univ of Oxford, The Women's Ctr, Headley Way, Oxford, UK.

Objectives: The development of an endometriotic lesion involves cell adhesion, proliferation, differentiation and invasion, all of which can be modulated by the interaction of extracellular matrix (ECM) components and integrin receptors. Our aim was to determine the expression and function of ECM molecules and integrin receptors in an in vitro model of endometriosis.

Materials/Methods: Endometriotic tissues comprising endometrioma, surface lesions (nodules) and deeply infiltrating endometriosis (deep nodules) were obtained from women undergoing laparoscopy for endometriosis, infertility or benign indications. Stromal cells were isolated by digestion with collagenase and DNase, and separated using a Percoll gradient. Endometriotic stromal cells were maintained in vitro and expression of stromal-specific markers assessed. The levels of integrin subunits on freshly isolated and cultured cells were examined by quantitative immunohistochemistry. The function of specific ECM components was determined in assays for adhesion, proliferation, differentiation. The data were evaluated according to the type of lesion.

Results: We found differences in the levels of different integrin subunits in freshly isolated and cultured endometriotic stromal cells, depending upon the source of the lesion. The adhesive capacity of endometriotic stromal cells on different ECM components also was dependent upon the source of the lesion. The adhesion of cultured endometrioma cells to ECM components was 2.5-fold higher, and cultured nodule cells 1.5-fold higher, than the adhesion of cells derived from endometrium. All cell types exhibited higher adhesive capacity on collagens IV and I compared to fibronectin. The influence of ECM on the proliferative and invasive capacities of endometriotic cells are being determined.

Conclusions: Cells derived from nodules and deep nodules respond differently to the extracellular matrix. Modulation of ECM components therefore may determine the extent of invasion of endometriotic lesions.

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P-71

Concentration of matrix metalloproteinase-1, tissue inhibitor of matrix metalloproteinase-1 and its complex in peritoneal fluid in patients with endometriosis. M. Gogacz[1], J. Kotarski[2], P. Skorupski[1], J. Jakowicki[1], T. Rechberger[1]. [1]2nd Dept of Obstet and Gynecol, Univ Sch of Medicine, Lublin, Poland; [2]1st Dept of Obstet and Gynecol, Lublin, Poland.

Objectives: Many studies on endometriosis are focused on peritoneal fluid and immune cells regarding it the most frequent localization in peritoneal cavity. Immune cells potentially posses ability to produce matrix metalloproteinases (MMPs). MMPs belong to zinc dependent lytic enzymes that are responsible for degradation of collagen. This effect can enhance the process of implantation and progression of endometriosis. Tissue inhibitor of matrix metaloproteinase-1 (TIMP-1) is responsible for natural inactivation of MMP-1 by forming inactive complex MMP-1/TIMP-1.

Design: In our study we measured MMP-1, TIMP-1 and its complex MMP-1/TIMP-1 in peritoneal fluid in patients with endometriosis.

Materials/Methods: The study group consist of 23 patients with endometriosis who underwent laparoscopy. Stage I of endometriosis was diagnosed in 10 patients, stage II in 8 patients and 5 patients had stage III/IV of the disease. 12 patients with presence of benign non inflammatory adnexal tumor served as a reference group. Peritoneal fluid was stored until analysis at −700C. MMP-1, TIMP-1 and MMP-1/TIMP-1 complex were measured using ELISA (Amersham).

Results: MMP-1 concentration was significantly higher ($p < 0.05$) in patients with endometriosis comparing to reference group: 3.75 vs 3.45 ng/ml. MMP-1 concentration was significantly higher in all stages of endometriosis in comparison to reference group. MMP-1 concentration was significantly higher ($p < 0.05$) in patients with stage III/IV of endometriosis in comparison to stage I and II of the disease. TIMP concentration was significantly higher ($p < 0.05$) in the reference group comparing to endometriotic patients: 218.75 vs 202.04 ng/ml. It is worth to notify that TIMP-1 was higher in patient with stage II and III of endometriosis in comparison to stage I of endometriosis. There was no difference in MMP-1/TIMP-1 concentration ($p > 0.05$) both between studied groups of patients 7.15 vs 5.98 ng/ml and among patients with endometriosis.

Conclusions: Observed changes suggest that progression of the disease may differ depending on the stage of the disease. TIMP may be an important factor responsible for limiting the process of endometriosis. Better understanding the role of collagenolytic enzymes and its inhibitors may serve as background for the improvement of the classification and/or treatment of the disease.

Supported By: None reported.

CLINICAL RESEARCH

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P-73

Increased killer inhibitory receptor expression among natural killer cells in women with pelvic endometriosis. T. Kusume, C. Izumiya, N. Maeda, T. Fukaya. Obstetrics and gynecology, Kochi Medical Sch, Kochi, Japan.

Objective: To investigate the host immunologic response to endometriosis in terms of killer inhibitory receptor (KIR) expression by natural killer (NK) cells.

Design: Case-control study of immunologic markers.

Materials/Methods: We compared cells from 42 Japanese women laparoscopically diagnosed with endometriosis to cells from 40 women without endometriosis (control). Peripheral blood (PB) was collected before laparoscopy, and in 12 subjects with endometriosis, also 1 month after laparoscopic surgery. Peritoneal fluid (PF) was collected at laparoscopy. We examined the percentage of KIR-expressing (KIR +) NK cells among NK cells in PF and PB. Relationships between percentage of KIR + NK cells and clinical severity in women with endometriosis were examined. The percentage of KIR + NK cells in PB was reexamined after laparoscopic removal of endometriotic lesions. KIR expression by NK cells was assessed by flow cytometry. Informed consent for obtaining PF and PB samples was obtained before the procedure. The Kruskal-Wallis test and the Mann-Whitney U-test was used to test KIR levels among the groups.

Results: In women with endometriosis, percentage of KIR + NK cells in both PF and PB was significantly higher than in control subjects (PF, $p = .017$; PB, $p = .0008$). Percentages of KIR + NK in PF correlated with American Society for Reproductive Medicine (r-ASRM) scores ($p = .009$), however, percentages of KIR + NK in PB did not. No significant differences in proportion of KIR + NK cells were identified between PB sampled before and 1 month after laparoscopic surgery.

Conclusions: The percentage of KIR + NK cells were increased in PB