ISGE
GYNECOLOGICAL ENDOCRINOLOGY
THE 18TH WORLD CONGRESS
7-10 MARCH 2018 FLORENCE, ITALY

P267. The roles of cell migration and invasion mediated by Twist in endometriosis

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Context? There is 10%~15% of women in reproductive age suffering from Endometriosis, especially who aged between 25 and 40 years old, with an increasing trend in recent years. However, its pathogenesis remains to be unclarified.
Objective?In order to investigate the roles of cell migration and invasion mediated by Twist in endometriosis.
Methods and Materials: The protein levels and locations of Twist, N-cadherin and E-cadherin were measured by Western blot and immunohistochemistry in ectopic endometrium and eutopic endometrium of ovarian endometriosis as well as normal endometrium of non-endometriosis patients. The mRNA expressions of Twist, N-cadherin and E-cadherin in these tissues were measured by quantitative RT-PCR. Stable overexpression of Twist in eutopic endometrial stromal cells was transfected with a plasmid-mediated delivery system. The protein and mRNA expressions of N-cadherin and E-cadherin were detected by western blot and RT-PCR. The changes of migration and invasion of endometrial stromal cells were explored by transwell.
Patients: All tissues were derived from surgical resection of patients admitted to our hospital from January 2013 to July 2016. All of the patients participated in the study signed the informed consent form.
Main Outcome Measure?The levels of proteins and mRNAs of Twist, N-cadherin and E-cadherin expressed in endometriosis tissues and endometrial tissues. Cell migration and invasion changes before and after transfection with Twist.
Results: Levels of protein and mRNA of Twist and N-cadherin showed the highest expression in ectopic endometrium of ovarian endometriosis, while lowest in normal endometrium of non-endometriosis patients. On the contrary, the expression of E-cadherin showed highest in normal endometrium of non-endometriosis patients. The over-expression of Twist after transfection significantly up-regulated the protein and mRNA expression of N-cadherin, while down-regulated the protein and mRNA expression of E-cadherin. There is significant difference between groups. For transwell, the over-expression of Twist in eutopic endometrial stromal cell significantly promoted cell migration and invasion.
Conclusions: Twist might be related with the increase of migration and invasion in endometrial stromal cells, mediated by epithelial-mesenchymal transition (EMT).

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