598

Meyer S[1], Poncet S [2], Achtari C[3], Juillerat L[2]
1. Urogynecology Unit, 2. Univ. Pathology Dept.CHUV, Lausanne, 3. Urogynecology Unit, CHUV, Lausanne, Switzerland

THE ENDOTHELIN SYSTEM IN NORMAL UROGENITAL TRACT OF NORMAL PREGNANT WOMEN AND OF WOMEN WITH UTERO-VAGINAL PROLAPSE.

Aims of Study

Myofibroblasts, or differentiated fibroblasts, are characterized by a contractile apparatus similar to smooth muscle cells, and are important in establishing tension during wound healing and in the synthesis and reorganization of extracellular matrix (ECM). The aim of this study was to address the role of myofibroblasts in pregnant women and in older women operated for utero-vaginal prolapse.

Methods

Myofibroblasts cultures were obtained from surgical biopsies of posterior vaginal wall obtained :
during episiotomy repair from primiparae normally delivered women (N:8, age : 29±4 years)
during utero-vaginal prolapse elective surgical repair of women operated from severe, i.e. grade 3, utero-vaginal prolapse (N:7, age : 56±17 years). Each women had pre-operative local estrogen administration during at least three months.
The expression of endothelin-1 (ET-1), endothelin converting enzyme and the two endothelin receptors (ET_A and ET_B) were determined in these cells by RT-PCR, protein expression and ET-1 binding. The contractile effect of myofibroblasts was measured by adding fibroblasts-contracting agents (i.e. endothelin and antagonists to ET-receptors) to their culture medium using a collagen gel contraction assay, measuring the diameter of the plug after 24 h, 48 h and 72 h incubation at 37 ^{o}C and 6 % CO_2.

Results

Urogenital myofibroblasts expressed mRNA for all the components of the ET-1 system, however, ET binding was almost exclusively mediated by ET_B-receptor. Their spontaneous or their ET-dependent contractile capacity showed a greater contractile capacity of myofibroblasts obtained from primiparae women than from women operated for prolapse.

Conclusions

The endothelin system is important in tissue repair and show significant differences when comparing in young pregnant women to older women with a prolapse pathology. The endothelin system will be further studied in a more large cohort of primiparae women in order to find differences in the myofibroblasts – contractility response between young pregnant women and to determine if it can be used as a specific screening test for further utero-vaginal prolapse development .