

Pro- and antiapoptotic proteins BCL-2 and Bax in endometrium of patients with miscarriages.

I Zhukova (RU) [1], O Lebedeva (RU) [2], O Ivashova (RU) [3], S Pakhomov (RU) [4], M Churnosov (RU) [5]

Context. Decidual apoptosis may lead to spontaneous and recurrent miscarriages (Cinar O. et al., 2012). But its mechanism is not yet well-defined. BCL-2 is an important anti-apoptotic protein, which inhibits pro-apoptotic proteins. Bax is pro-apoptotic protein, which induces internal (mitochondrial) pathway of apoptosis.

Objective: to define features of mRNA expression of BCL-2 and Bax decidual tissue (endometrium) of patients with missed and spontaneous abortions.

Methods. mRNA expression of BCL-2 and Bax was detected by quantitative PCR. Peptidyl prolyl isomerase ? (PPIA) was used as housekeeping gene. Expression of mRNA was counted in relative units as delta-delta cq. Statistical analysis was performed by Mann-Whitney test using Statistica 13.2 (Statsoft, USA).

Patients. 34 patients with missed abortions, 34 patients with spontaneous abortions and 57 patients, admitted for medical abortion, as control group were examined. Gestational age of pregnancy termination in all cases was 6-10 weeks. Patients with severe extragenital diseases, antiphospholipid syndrome and endocrine disorders were excluded from the research.

Interventions. Endometrial tissue was obtained by uterine abrasion.

Results. In endometrium of patients with missed abortions 50-fold increase of BCL-2 mRNA expression was observed compared with control group (0,001 (0,000016; 0,053) versus 0,00002 (0,000003; 0,0025)) ($p < 0,05$). No significant changes of Bax mRNA expression were observed in patients with missed abortion compared with control group. It can be suggested, that increased level of BCL-2 may inhibit apoptosis of cells, infected by viruses, in patients with missed abortion. Another suggestion is that increase of BCL-2 can appear because of high level of proteins of extrinsic pathway of apoptosis.

In endometrium of patients with spontaneous abortions there were no differences in mRNA expression of BCL-2 and Bax compared with the control group.

Conclusions. Patients with missed abortions have increased level of anti-apoptotic protein BCL-2, which can influence to pathogenesis of this complication.

Supported by Grant of President of Russian Federation MD-2326.2017.7.