Investigation the effect of cell free fetal DNA on spontaneous preterm labor

Abstract

BAKGROUND & OBJECTIVE: Many factors play a role in preterm delivery than other major causes inflammatory phenomena are expressed in preterm delivery. From these factors , cff DNA can be named. Since the stop preterm labor or induction was less successful ,researchers now more focused on the possibility of prediction and prevention of preterm labor in preventing preterm delivery prediction . The first step in the prevention of preterm labor is prediction. So, we decided to check cff DNA levels in serum of pregnant women with spontaneous preterm labor.

METHODS : This research was a case-control study with non-random convenience sampling. At the beginning of the study , 100 women qualifying for the study were selected as the sample. The selected women were then briefed about the objectives of the study and consented to participant in the study. The participants were after ward divided into two groups of healthy pregnant women, and nullipar pregnant women experiencing preterm labor. There were fifty participants in each group. The next step was examining all of the participants clinically.This clinical examination, inaddition, involved collecting comprehensive personal information about the participants' chronological age, pregnancy age, gender of theirfetuses, and theirown blood types. Then 2.5cc of venous blood was driven from each participant and its plasma was separated. The separated and frozen plasma was then sent to the research center of Imam Khomeyni Hospital for further investigation. After that, data obtained from the used checklists along with data from the participants' blood samples were inputted into SPSS V16 for statistical analysis. To analyze the data , descriptive statistical procedures including frequency counts and tables and inferential statistical techniques like T-test and Chi-square were used .

RESULTS: The mean age of women in the experimental group was 22.90 with the standard deviation of 4.04 while in the control group these two values were 23.78 and 4.37, respectively. In the experimental group 29 patients (58%) and in the control group 27 patients (54%) had cff DNA . The mean of the counted DNA in the experimental group was 2080/03 with the standard deviation of 909/792 while the same values for the control group were 1183/26 and 620/720 , in the same order. The statistical analysis revealed that this difference was meaningful at P=.001. Furthermore, in the experimental group cff DNA increased with increase in the age and the difference was meaningful . Finally , increasing pregnancy age in the experimental group led to increase in the number of cff DNA (P=.001) .

CONCLUSION : The results of this study indicated that the cumulative frequency of preterm labor for women with positive cell-free fetal DNA was significantly higher. High levels of cells' DNA in the serum of pregnant mothers increases the risk of spontaneous preterm labor. These observations may have implications for preterm labor .

KEY WORDS : preterm labor , early preterm labor, late preterm labor , dilatation and effessment , cell free fetal DNA ,prematurity