



Expression of ERK and Akt proteins in women with unexplained first-trimester recurrent miscarriage

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Abstract:

Objective: Recurrent miscarriage (RM) is one of the most common clinical problems in reproduction. The aims of the current study were to evaluate the expression of ERK and Akt proteins in human trophoblastic tissue and to assess the significance of MAPK and PI3K-Akt signal pathways in the progression of unexplained recurrent miscarriage. **Study design:** A case-control study. **Setting:** Women Health Hospital, Assiut, Egypt. **Materials and methods:** All pregnant women presented with first-trimester inevitable miscarriage with a history of RM, defined as three or more spontaneous consecutive first-trimester miscarriages before 12 weeks of gestation, were included in the study (RM group). Age-matched healthy women who had at least one normal pregnancy with no history of miscarriage were included as a control group at the time of delivery. A sample of trophoblastic tissue was taken for Western blot test to evaluate the level of phospho-ERK and Akt (active forms) proteins in trophoblastic tissue. **Results:** The study included 20 women in each group. There were non-significant differences between both groups as regards maternal age, BMI, passive smoking and family residence. There were significantly lower levels of p-ERK and p-Akt in the RM group as compared to the control group ($p = 0.001$). **Conclusion:** The activation of ERK and Akt pathway plays a significant role in RM. The data suggest that decreased expression of p-ERK and p-Akt occurs less frequently during RM may play a role in this process. This suggests that p-ERK and p-Akt may be markers of RM. Expression of ERK and Akt proteins in women with unexplained first-trimester recurrent miscarriage. Available from: https://www.researchgate.net/publication/308780788_Expression_of_ERK_and_Akt_proteins_in_women_with_unexplained_first-trimester_recurrent_miscarriage [accessed Oct 2, 2016].

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