Evaluation of serum Peroxiredoxin3 and Peroxiredoxin4 auto antibodies in recurrent spontaneous abortion patients

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ABSTRACT

Background: Recent studies showed the importance of immunological factors in pregnancy and the relationship between autoimmunity and reproduction has been recognized. Recurrent spontaneous abortion (RSA) is a common complication in pregnancy that several surveys have been reported presence of auto antibodies in this disease. These antibodies may affect the placenta or fetus and result into abortion. Recently placental antigens, Peroxiredoxin 3 (Prx3) and Peroxiredoxin 4 (Prx4) were introduced and related autoantibodies have been detected in RSA patients qualitatively. Because of their antioxidant activity to support placentation, autoantibodies against these proteins may lead to abortion. Present study aimed to determine the quantitative assessment of autoantibodies in serum of RSA patients.

Materials & Methods: In this research, 100 women with a history of at least three RSA and 32 women with at least two successful pregnancies without any abortion as a control group were included. Serum level of Anti-Prx3 and Prx4 were assessed in these two groups with related designed ELISA method. Results were evaluated with independent sample t-test.

Results: The data demonstrated that level of anti-Prx4 is higher in RSA patients compared with normal controls (P=0.004). However there was no statistically difference in the level of anti-Prx3 between RSA and healthy women (P=0.51).

Conclusion: Our results indicated that anti-Peroxiredoxin4 auto antibody as a new immunologic factor elevates in RSA patient quantitatively and this immunologic cause can introduce as a diagnostic test for immunologic abortions by more studies.

Key words: anti-Peroxiredoxin3, anti-Peroxiredoxin4, Recurrent spontaneous abortion