Reyhane Sadat Saeedi et al., J Mol Genet Med 2016, 10:3 (Suppl)
http://dx.doi.org/10.4172/1747-0862.C1.012

The role of chromosomal abnormalities in spontaneous abortion and chromosome analysis importance

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Spontaneous abortions define as a loss of pregnancy before 20 week of gestation. About 50% spontaneous abortion of first trimester of pregnancy results from chromosomal abnormalities. Understanding of these genetic causes is absolutely important in born of healthy infants and will contribute to the management of subsequent pregnancies. Fetal aneuploidy or monosomy and trisomy of fetus caused upset to the natural process of fetal development and eventually lead to miscarriage. In the most cases, these aneuploidies result from error in the disjunction of gamete chromosomes and the risk of recurrence is low. All symptoms of these disorders are due to dosage of gene expression. Enhanced maternal age increases damage to ovum and heightens the risk of miscarriage and birth defects. The importance of genetic analysis in miscarriage is evident when carrier parents of balanced rearrangement experience recurrent abortions. These parents have a normal phenotype but have susceptibility to produce unbalanced gametes that can leads to miscarriage. Due to the possibility of being parent's carrier, chromosome analysis and risk assessment are crucial for understanding of recurrence risk. Chromosomal analysis in aborted fetuses is risk assessment of recurrent abortion in subsequent pregnancy. Actually utilization of genetic counseling and knowing the causes of abortion and genetic bases of this condition will be helpful in management of subsequent pregnancies and birth of healthy newborns. In addition, peer understanding of spontaneous abortion genetic causes could be helpful in better utilize of diagnostic and therapeutic approaches of assisted reproduction.

Biography

Reyhane Sadat Saeedi is currently a student in Faculty of Medicine, Tehran University of Medical Sciences, Iran. She is a Member in Students' Scientific Research Center and Student Advisory Committee of Medical School of Tehran University of Medical Sciences. She has published 3 papers in reputed journals.

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