Recurrent Miscarriages

Recurrent miscarriages are defined as the occurrence of three or more consecutive pregnancy loss. Risk factors of miscarriages include:

- Advancing maternal age
- Uterine abnormalities
- Inherited Thrombophilia, clot dysfunctions
- Woman's immune system with increased levels of NK cells
- Hormonal abnormalities

<<Recently I had few cases of women of a younger age, and even if I closely performed the appropriate check-ups and examinations against the risk factors that lead to miscarriages and suggested the appropriate treatments before the embryo transfer to the womb, I couldn't reverse the results. The conformation of the situation included medical treatment for thrombophilia, hysteroscopy for preparing the uterine cavity and visualize the inner side of the uterus, administration of Intralipids treatment in case of increased levels of NK Cells (natural killer cells) as well as hormonal therapy. Of course, I didn't forget to proceed with embryos' chromosomal analysis (Karyotyping), but most of the times the results were liing at normal levels>>.

Additionally, the examinations of Preimplantation Genetic Diagnosis (PGD) and Preimplantation Genetic Screening (PGS) cannot disseminate embryos with aneuploidy or organic-skeleton disorders. As a result we cannot sure 100% about healthy chromosomal embryos.

<<For these reasons, I searched for answers among international bibliography and opinions of other colleagues around the word>>. Even in cases of embryos who were not implanted in the uterus after a preimplantation examination, was indicated that these embryos had high levels of mitochondrial DNA, which covers 0,1 of the total genetic material of the cell and supplying cellular energy.

Mitochondrion has its own genome and differences from cell nucleus DNA. Mitochondrial DNA is not defying characteristics such as personality, or external appearance but once has infected can cause cardiovascular diseases,

brain damage etc. Their presence in pathogenic levels creates a barrier at embryonic implantation.

As a manner of fact, the existence of a specific examination in which embryonic cells are collected and checked for the number of mitochondrial DNA, avoiding the risk of implantation and lead to a successful gestation. The reasons of this phenomenon are undefined, maybe pathologic embryos produce more mitochondrial cells in order to supply more energy and survive, but eventually the development stops.

It has already supplied to 100 couples as it has been announced by ASRM 2015 with success rates from 65%-75%, to women <35 years old. So remains in future to detect the causes and reason of this problem.