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13th International Symposium for Immunology of Reproduction



“From the roots to the tops of
reproductive immunology”



"Fr. Joliot-Curie" International House of Scientists
Varna, Bulgaria



Institute of Biology and Immunology of Reproduction
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stimulating insulin and leptin after glucose loading, compared with those who were negative for circulating sHsp antibodies. A positive relationship were found between clinical features (younger maternal age, lower BMI, GDM in earlier gestational age and non-parity), laboratory parameters in GDM and patient's serum anti-sHsp antibodies.

Conclusion: Humoral autoimmunity against sHsp was associated with some cases of GDM. The small heat shock proteins contribute to autoimmune pancreatic β -cell dysfunction. Future studies are needed to understand the sHsp immune reactivity to them in immunobiology of GDM.

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Case of a 39 year old woman experiencing natural successful pregnancy after 2 IUI unsuccessful attempts in Northern Greece after suppression of abnormal NK functional activity

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Introduction: *In vitro* investigations have revealed the ability of intralipids to suppress NK abnormal functional activity and elevated NK levels as well. Evidence from both animal and human studies suggest that intralipid administered intravenously may enhance implantation and maintenance of pregnancy when the patient has an abnormal NK cells level or function.

Objective: To describe as unusual situation for natural successful pregnancy of a 39 year old woman in Northern Greece after suppression of abnormal NK functional activity for the first time by the administration of Intralipid

Patients: A 39-year old woman experienced infertility the last 2 years of continuous attempts. The husband's (43 years old) full sperm analysis with sperm DNA fragmentation has shown to be in normal ranges. Woman's exams included ultrasound and series of tests for hormone levels, microbiological and serological tests, and reproductive immunophenotype (CD3+, CD3+DR+, CD4+, CD8+, CD19+, CD19+CD5+, CD3-CD16+CD56+, CD3-CD16-

CD56+), NK functional activity, Embryotoxicity assay, Anti-nuclear antibodies (ANA), and the full panel of the anti-phospholipid antibodies (APA). All tests came normal except NK functional activity which was 15.6% (normal <10%) and embryotoxic factors that came borderline. She has received twice an infusions with 5 mL intralipid (20%).

Results: After one attempt of failed insemination during the first month of intralipid infusion, full term pregnancy naturally was observed in the second month after second intralipid infusion to suppress abnormal NK cells activity.

Conclusions: Abnormal NK cells should be suppressed in women who face unexplained infertility. Also, immunological biomarkers should be performed in routine, when other diagnostic parameters for a woman are normal (anatomical, chromosomal, hormonal etc.).

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In search of factors in endometriosis peritoneal fluid that decreased decidualization process

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Introduction: Endometriosis, a benign chronic-dependent gynecological disease, is characterized by the ectopic growth of endometrial tissue outside the uterus, causing pelvic pain and infertility. It is assumed that endometriosis is related to violation of decidualization process of normal endometrial stromal cells, which is crucial for embryo implantation and placentation. This is the basis of our hypothesis that factors in endometriosis peritoneal fluid can affect decidualization process.

The aim of this study is to trace the affects of endometriosis peritoneal fluid on '*in vitro*' decidualization of human endometrial stromal cells and to identify any endometriotic-specific proteins.

Methods: Endometrial stromal cells were cultivated and their '*in vitro*' decidualization was traced in the presence of endometriosis and control (non-endometriosis) peritoneal fluids. The two types of peritoneal