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## ENDOMETRIAL SCRATCHING AND ANALYSIS UTERINE NATURAL KILLER (UNK) IMPROVE PREGNANCY RATE IN INFERTILE WOMEN WITH PREVIOUS IVF FAILURE

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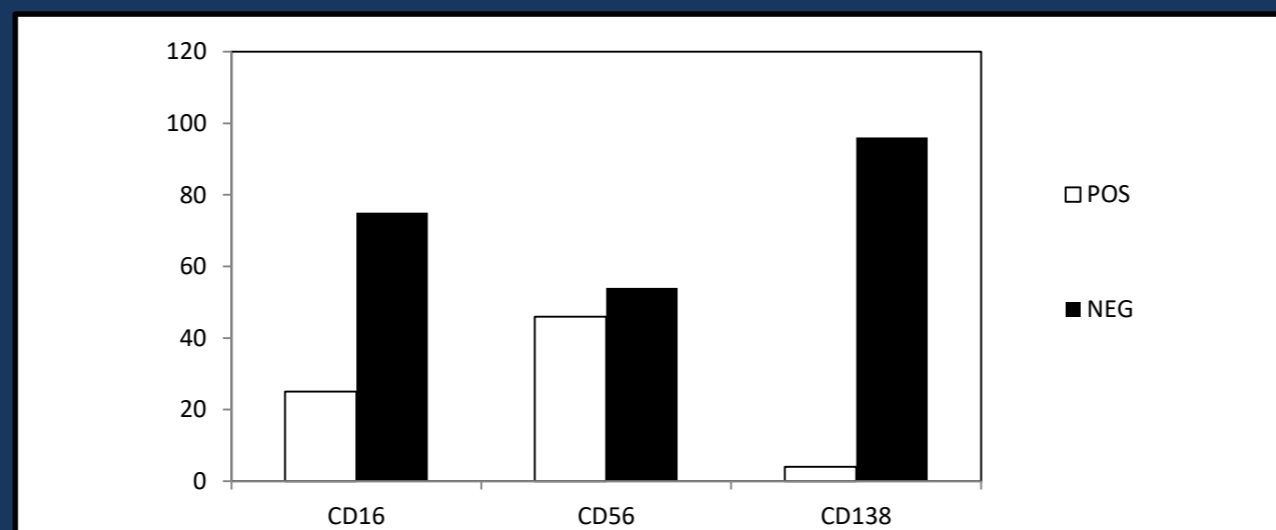
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**INTRODUCTION:** Endometrial immune reaction that occurs in women during the implant window is crucial for implantation. Under physiological conditions, uNK lymphocytes are not spontaneously cytotoxic. However, uNK cells are not the only ones in the endometrium: in a predominantly Th1 environment, dendritic cells and Treg cells can increase the uNK lymphocytes cytotoxicity and in turn they are able to recognize trophoblastic cells as non-self and reject them by inducing a missed implant and repeated abortions. When uNK lymphocytes are elevated, aggressive environment is produced in the endometrium causing implantation failure. An altered immune system can be closely linked to abortions or repeated failures of an embryonic implant so a balanced local immune biological reaction is necessary to allow the embryo adhesion phase.

**METHODS:** A total of 95 women with IVF failures was participated in this study . Endometrial tissue samples were obtained with a microcatheter Pipelle, performing endometrial scratching. Research of uNK lymphocytes was performed by histological examination. Immunohistochemical markers CD16 and CD56 reveal the possible presence of lymphocyte elements in the stroma of the endometrial mucosa. Instead, the morphological and immunohistochemical marker CD138 reveals the possible presence of plasma cells that can be evidence of endometritis. Endometrial biopsies were collected in proliferative and secretive phase.

**RESULTS:** They were considered positive cases presence of a number of cells of CD > 10 cells in proliferative phase and >20 cells in secretive phase. CD16 and CD56 cell abundance in proliferative endometrial tissue of women with reproductive failure has suggested they may play a role in this pathogenesis. Common treatment for women with abnormal endometrial NK cells numbers is use of corticosteroids and in addition in our lab we use biophotonic therapy: through a special device connected to computer, woman received spermatic biophotonic emission of her male partner, previously stored. The administration of spermatic biophotonic energy was carried out a few minutes before the embryotransfer and on culture medium in which there are incubated embryos obtained through ICSI et/or PCSI.

After these specific treatments, pregnancy rate was significantly higher (28%) in the same group of patients with several previous IVF who never had a pregnancy before (considerated as control group).



**CONCLUSION:** Performing this combined treatment with endometrial scratching in patients with diagnosis of infertility increased pregnancy rates.