In summary, our findings demonstrated that gene expression of new strategies for diagnosis and therapies about implantation failure Treg/Th17 balance in reproductive biology and immunology to find phase at the window of implantation. It is important to focus on the miscarriages before 20 weeks of gestation occur during the luteal higher than NNP group. Since the majority of spontaneous frequency of Th17 cells in the URSM subjects was significantly significant. The frequency of Treg cells in PBLs of the URSM Moreover, Expression of IL-21 was higher in the URSM group compared to the NNP group. Furthermore, expression of cytokines related to Th17 cells such as IL-17, IL-23 and IL-6 were significantly higher in the URSM patients compared with NNP women. Moreover, Expression of IL-21 was higher in the URSM group compared to the NNP group but the result was not statistically significant. The frequency of Treg cells in PBLs of the URSM subjects was significantly lower than the NNP group but the frequency of Th17 cells in the URSM subjects was significantly higher than NNP group. Since the majority of spontaneous miscarriages before 28 weeks of gestation occur during the luteal phase at the window of implantation. It is important to focus on the T regulatory Th17 related cytokines and markers during the luteal phase in patients with URSM. The aim of the present study was to evaluate frequency of Treg and Th17 cells and contribution of T regulatory and Th17 related cytokines and markers during the luteal phase in recurrent miscarriage.

In an overview of recent findings that demonstrated gene expression of cytokines and markers related to Th cells such as FoxP3, CTLA-4, TGF-β and GTR were significantly lower in the URSM patients compared to NNP group. Although it is important to evaluate the window of implantation, however, expression of IL-10 was non-significantly higher in the URSM group compared to the NNP group. Furthermore, expression of cytokines related to Th17 cells such as IL-17, IL-23 and IL-6 were significantly higher in the URSM patients compared with NNP women. Moreover, Expression of IL-21 was higher in the URSM group compared to the NNP group but the result was not statistically significant. The frequency of Treg cells in PBLs of the URSM subjects was significantly lower than the NNP group but the frequency of Th17 cells in the URSM subjects was significantly higher than NNP group. Since the majority of spontaneous miscarriages before 28 weeks of gestation occur during the luteal phase at the window of implantation. It is important to focus on the Treg/TTh17 balance in reproductive biology and immunology to find new strategies for diagnosis and therapies about implantation failure and preterm labor recurrent pregnancy loss.

Flowcytometry
a) Surface staining with CD4-PerCP and CD25-FITC monochlonal antibody
b) Intracellular staining with IL17-PE monoclonal antibody
c) Detecting Treg and Th17 cells with fluorescence activated cell sorter(FACS)

Data analysis by WINMDA software

Quantiative Real time PCR
a) RNA extraction
b) cDNA synthesis
c) Quantitative Real time PCR
d) Data analysis by Rotogene 6000 software

In conclusion, our findings demonstrated that gene expression of cytokines and markers related to Th cells such as FoxP3, CTLA-4, TGF-β and GTR were significantly lower in the URSM patients compared to NNP group. Although it is important to evaluate the window of implantation, however, expression of IL-10 was non-significantly higher in the URSM group compared to the NNP group. Furthermore, expression of cytokines related to Th17 cells such as IL-17, IL-23 and IL-6 were significantly higher in the URSM patients compared with NNP women. Moreover, Expression of IL-21 was higher in the URSM group compared to the NNP group but the result was not statistically significant. The frequency of Treg cells in PBLs of the URSM subjects was significantly lower than the NNP group but the frequency of Th17 cells in the URSM subjects was significantly higher than NNP group. Since the majority of spontaneous miscarriages before 28 weeks of gestation occur during the luteal phase at the window of implantation. It is important to focus on the Treg/TTh17 balance in reproductive biology and immunology to find new strategies for diagnosis and therapies about implantation failure and preterm labor recurrent pregnancy loss.

References

8. Mashhad University of Medical Sciences, Department of Immunology Faculty of Medicine, Mashhad, Iran
9. 6Mashhad University of Medical Sciences, Department of Immunology Faculty of Medicine, Mashhad, Iran