The presence of antithyroid antibody (ATA) is frequently encountered in general population and approximately 1/5 of childbearing-age women are positive for the anti-thyroid peroxidase antibody (TPO-Ab) or anti-thyroglobulin antibody (TG-Ab)1,2. Previous research showed there were 10.5% of infertility women who were positive for ATA 3. It has been shown that the TPO-Ab level was associated with the thyroid-stimulating hormone (TSH) level: 1) TPO-Ab positive women had significantly increase TSH level; 2) some women with normal TSH level were found to be positive for TPO-Ab 4,5. The presence of ATA in euthyroid women may be related to some fertility problems such as increased abortion rate and raised incidence of infertility6. In recent years, some researchers speculated that assisted conception women positive for ATA had poor outcome of in vitro fertilization, even they were euthyroid3. To date, no consensus has been achieved on the impact of ATA on the outcome of in vitro fertilization and embryo transfer (IVF-ET). Whether to give adjuvant therapy to regulate the thyroid autoimmunity before and during IVF is still controversial. These issues are required to be investigated and clarified.

Objective: To investigate the impact of antithyroid antibody on pregnancy outcome following the in vitro fertilization and embryo transfer (IVF-ET).

Methods: A total of 90 patients (156 cycles) positive for antithyroid antibody (ATA+ group) and 676 infertile women (1062 cycles) negative for antithyroid antibody (ATA- group) undergoing IVF/ICSI from August 2009 to August 2010 were retrospectively analyzed.

Results: There was no significant difference in the days of ovarian stimulation, total gonadotropin dose, serum E2 level of HCG day and number of oocytes retrieved between the two groups. The fertilization rate, implantation rate and pregnancy rate following IVF-ET were significantly lower in women with antithyroid antibody than in control group (64.3% vs 74.6%, 17.8% vs 27.1% and 33.3% vs 46.7%, respectively), but the abortion rate was significantly higher in patients with antithyroid antibody (26.9% vs 11.8%).

Conclusion: Patients with antithyroid antibody showed significantly lower fertilization rate, implantation rate and pregnancy rate and higher risk for abortion following IVF-ET when compared with those without antithyroid antibody. Thus, the presence of antithyroid antibody is detrimental for the pregnancy outcome following IVF-ET.

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