The effect of subclinical hypothyroidism in infertile women undergoing stimulated intrauterine insemination

Objective: To investigate whether subclinical hypothyroidism (SH) affects controlled ovarian stimulation (COS) results and pregnancy outcome in infertile patients undergoing stimulated intrauterine insemination (IUI).

Methods: Retrospective cohort study

Patients: A total of 160 infertile patients who underwent IUI in COS cycles using GnRH antagonist multiple-dose protocol (MDP) between January 2009 and June 2013 were included. Forty-nine patients (30.6%) of 160 had a SH that is defined as an elevated serum thyroid stimulating hormone (TSH) level associated with a normal free thyroxine (FT4) level, and without frank symptoms of hypothyroidism.

Intervention: Stimulated IUI outcomes in infertile patients with SH were compared with those in patients with normal serum TSH and FT4 levels.

Main Outcome Measures: COS results, antithyroid antibodies titer and pregnancy outcome

Results: Both thyroid peroxidase antibody (TPOA) and thyroglobulin antibody (TGA) titers were significantly higher in the SH group than in the control group. Total dose and days of recombinant human FSH (rhFSH) required for COS were significantly higher in SH group. Miscarriage rate was also higher in SH group. TPOA and TGA titers were significantly higher in the miscarriage group than in the live birth group.

Conclusions: SH in infertile patients undergoing stimulated IUI results in lower ovarian response to COS and higher miscarriage rate. Elevated TPOA and TGA appears to be associated with miscarriage.