ISGE
GYNECOLOGICAL ENDOCRINOLOGY
THE 18TH WORLD CONGRESS
7-10 MARCH 2018 FLORENCE, ITALY

Thrombophilic genes alterations as risk factor for OHSS

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Context: The response of young ovulating women undergoing IVF treatment to standard stimulation protocol may result in poor ovarian response or ovarian hyperstimulation syndrome (OHSS). Meanwhile, maternal thrombophilia is one of the causes of ART failure. The important polymorphisms leading to inherited thrombophilia are Factor V G1691A (FVL), Prothrombin G20210A, MTHFR C677T and MTHFR A1298C. It is supposed that the thrombophilia will present as an extra risk factor for thrombosis in severe OHSS.

Objective: Our objective was to prospectively evaluate the relation between hereditary thrombophilia and OHSS. Methods: Clinical examination and ART results were examined. The results of FVL, Prothrombin G20210A, MTHFR C677T and A1298C polymorphisms were analyzed by PCR-RFLP.

Patients: The patients group consisted of 134 OHSS women with three or more ART failure, referred to the Royan institute. The control group included 350 women with at least one child and no history of pregnancy loss.

Intervention(s): The number of studied patients was low. Study with a larger sample size to find the concrete association between ovarian response and also other thrombophilia genes is recommended.

Main Outcome Measure(s): The results showed that MTHFR C677T polymorphism can change the ovarian response to OHSS. Results: The frequencies of FVL, Prothrombin G20210A, MTHFR C677T and A1298C polymorphisms in patients were 8, 4, 46 and 43%, and in controls were 3, 3, 24 and 5%, respectively. The results also showed an association between FVL, MTHFR C677T and A1298C polymorphisms and ART failure.

Conclusions: As MTHFR C677T has a strong impact on ovarian response, it is suggested that screening of this polymorphism be done in advance for ART failure patients to avoid any unfavourable outcomes.

Key words: Thrombophilia, OHSS, ART failure

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