

**HEMOSTATIC PARAMETERS AND THEIR ASSOCIATION WITH THE RATE
OF MATURE (MII) OOCYTES IN WOMEN WITH DIMINISHED OVARIAN
RESERVE**

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Diminished ovarian reserve (DOR) is one of the leading challenges in modern reproductive medicine, associated with a reduced yield of oocytes and poorer outcomes of assisted reproductive technology (ART) programs. Increasing evidence indicates that the hemostatic system, beyond its role in vascular homeostasis, is also involved in folliculogenesis, ovulation and oocyte maturation. However, data on the relationship between routine coagulation parameters and the proportion of mature (MII) oocytes in DOR patients remain scarce. This study aimed to evaluate the association between hemostatic parameters and the rate of mature MII oocytes in patients with diminished ovarian reserve undergoing ART.

A retrospective single-center study was performed in 30 patients with diminished ovarian reserve who underwent controlled ovarian stimulation with transvaginal follicular puncture at the “Siz Ona Bo‘lasiz” IVF center in 2026. Coagulation profile parameters obtained during standard preoperative work-up were analyzed: activated partial thromboplastin time (APTT), prothrombin time (PT), international normalized ratio (INR), prothrombin index (PI) and fibrinogen concentration. Retrieved oocytes were classified by nuclear maturity stage (MII, MI, GV, degenerated). Given the non-normal distribution of APTT, PT and MII counts (Shapiro–Wilk test, $p < 0.05$), Spearman’s rank correlation (r_s) and the Mann–Whitney U test were used for statistical analysis.

Mean patient age was 34.6 ± 6.2 years. Mean APTT was 31.2 ± 4.2 s, PT 11.9 ± 1.4 s, PI $96.1 \pm 12.1\%$, INR 1.04 ± 0.08 , fibrinogen 3.16 ± 0.52 g/L, and the mean number of MII oocytes retrieved was 1.37 ± 1.25 . APTT was the only hemostatic parameter significantly correlated with the number of MII oocytes, showing a moderate inverse correlation ($r_s = -0.490$, $p = 0.006$): higher APTT values were associated with a lower yield of mature oocytes. No significant correlations were found for PT, PI, INR or fibrinogen ($p > 0.05$). When patients were stratified by MII yield into Group I (MII = 0–1, $n = 18$) and Group II (MII = 2–4, $n = 12$), APTT differed significantly between groups (32.9 ± 4.3 s vs. 28.7 ± 2.7 s; $U = 179$, $p = 0.003$), while age and the remaining coagulation parameters showed no significant between-group differences ($p > 0.05$).

Among the hemostatic parameters studied, APTT demonstrated a statistically significant moderate inverse correlation with the number of mature MII oocytes and a significant difference between patients with low versus satisfactory MII yield. This suggests a possible role of the intrinsic coagulation pathway in the outcomes of ovarian stimulation in patients with diminished ovarian reserve. The remaining coagulation parameters (PT, PI, INR, fibrinogen) showed no significant association with mature oocyte yield.