

THE FREQUENCY OF EMBRYO ARREST AND OOCYTE MATURATION ARREST WITHIN PATIENTS UNDER 37 YEARS OF AGE

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Abstract Body

Oocyte maturation and embryo arrest are widely observed in clinical practice. Despite this, there is no exact data on how many patients with this problem exist and whether this number is the same among different populations. According to investigations on animal models more than 35 genes have been found to be associated with abnormal early embryonic development. It should be noted that five human genes with similar function have already been identified.

According to the Istanbul consensus, arrested embryos are those that have not cleaved during a 24-h period. There is a group of patients for whom the embryo arrest is a stable problem and recurs in subsequent IVF cycles. Patients with inability to obtain mature, morphologically normal egg that can be fertilized are rarer.

In this retrospective study cycles of 6015 patients were analyzed in the thirteen-year period (2006-2018). Only patients under 37 years of age, who underwent routine stimulation protocols, were included in the investigation. The embryo and oocyte maturation arrest group included patients who did not receive any blastocysts during all their stimulations. The analysis showed that the group with embryo and oocyte maturation arrest reached to 3.34 % (n =201). Additionally two groups of poor (n=851) and good responders (n=5164) were assessed. It was shown that the percentage of patients with embryo and oocyte maturation arrest in the group of good responders was 1.8% (n=92) compared with the poor responders group – 12.8% (n=109).

It is critical to analyze other populations for more accurate evaluation of embryo and oocyte maturation arrest frequency. Moreover, it is intriguing to shed the light on the genetic background of such conditions. The identification of new genes that play a key role in early embryonic development will allow to create a new genetic screening panel.