Intraterine administration of autologous mononuclear cells (AMC) before embryo transfer (ET) in blastocyst stage: Is it useful approach in cases with recurrent implantation failure (RIF)?


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Introduction
Blastocyst-stage ET and intraterine administration of autologous mononuclear cells has recently been proposed as successful alternative treatment approaches in both fresh and frozen ET cycles for RIF patients. Wilhe blastocyst-stage ET aims to select the best embryo for implantation and synchronize the endometrium, the latter approach is developed in order to improve the endometrial receptivity.

Material&Methods
This retrospective comparative study has been performed in Bahceci Fulya and Umut Assisted Reproductive Technologies Centres between November 2012-December 2013. It includes 639 cycles, in which couples have at least 2 unsuccessful trials with good embryo qualities in their previous trials, with no known endometrial pathologies.

During study period, the technique has been offered to candidate couples and in 185 cycles (88 fresh and 97 frozen) intraterine administration of AMC performed in combination with their embryo transfers. Four hundred fifty four cycles (181 fresh and 273 frozen) with the same inclusion criteria but have not undergone the procedure were used as controls.

The procedure involved the isolation and culture of autologous mononuclear cells 5 days prior to embryo transfer and intraterine administration of these cultured cells 3 days before ET.

Female age, previous trials, ovarian stimulation characteristics, cycle cancellation rates as well as general laboratory parameters (mean oocytes collected, fertilized, cell number during early cleavage stages etc.) were similar in both groups.

Results
In both study and control groups as well as intragroup comparisons for fresh and frozen ETs, similar biochemical (BPR) and clinical pregnancy (CPR) as well as implantation rates (IR) were obtained.

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<th>Control Group</th>
<th>Study Group</th>
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<tr>
<td></td>
<td>Fresh ET</td>
<td>Frozen ET</td>
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<tr>
<td>Cycles (n)</td>
<td>181</td>
<td>273</td>
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<tr>
<td>BPR</td>
<td>45.3%</td>
<td>52.7%</td>
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<td>CPR</td>
<td>39.7%</td>
<td>43.9%</td>
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<td>IR</td>
<td>27.8%</td>
<td>33.4%</td>
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Conclusion
Our results show that intraterine administration of AMC do not bring any additional benefit over blastocyst selection and transfer in cases with at least 2 previous failed trials.

References: