Maturity Rates (MR) with GnRH-a agonist (GnRH-A) trigger in normal, low, and very low responders pursuing elective oocyte cryopreservation (EOC)

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Introduction

- GnRH-a is a well-established method for oocyte maturation in high-responders at risk for ovarian hyperstimulation syndrome (OHSS).
- Normal responders are a lower risk for OHSS.
- In EOC, even a small risk may be unacceptable.

Objectives

- The primary objective of this study is to evaluate MR in normal, low, and very-low responders undergoing EOC using GnRH-a trigger.

Methods

- Retrospective cohort study.
- All EOC cycles performed from 4/2016-4/2018 at Extend Fertility Medical Practice, a large single-center oocyte cryopreservation program.
- Demographic, clinical, and embryologic data collected and categorized from the EMR.
- MR = mature (MII) / retrieved oocytes.
- Peak E2 levels on day of trigger were used as a surrogate for ovarian response.
- Associations made with X2, student’s t-test, Mann-Whitney U, and Kruskall-Wallis.

Conclusions

- GnRH-a trigger is a suitable option for EOC.
- While oocytes retrieved and MII oocytes significantly decreased with lower peak E2 levels, the maturity rate did not significantly decline.
- Very-low responders (E<1000) had lower MR overall, regardless of trigger type.
- GnRH-a can be used reliably in EOC cycles at all levels of response.

Results

<table>
<thead>
<tr>
<th>Oocytes Retrieved (Mean±SD)</th>
<th>MII Oocytes (Mean±SD)</th>
<th>Total (N=1125)</th>
<th>GnRH-a (N=491)</th>
<th>hCG (N=506)</th>
<th>Dual Trigger (N=24)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;2000 (N=160)</td>
<td>9.56±6.86</td>
<td>6.9±4.90</td>
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<tr>
<td>2001-3000 (N=116)</td>
<td>20.21±10.9</td>
<td>13.88±8.43</td>
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<tr>
<td>3001-4000 (N=91)</td>
<td>23.63±10.68</td>
<td>16.13±8.80</td>
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<tr>
<td>&gt;4000 (N=111)</td>
<td>30.08±12.81</td>
<td>21.61±10.30</td>
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<tr>
<td>P-value</td>
<td>&lt;0.01</td>
<td>&lt;0.01</td>
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</tbody>
</table>

Table 1: Cohort by trigger type

**Figure 1:** MR for GnRH-a triggers by peak E2 levels (pg/mL) on the day of trigger

P=0.78

Table 2: Oocytes retrieved/MII oocytes for GnRH-a triggers by E2 level (pg/mL) on the day of trigger

2. Meyer L, Fertility & Sterility Sep 2015

References