OBJECTIVE: A vexing question in ovarian biology and clinical ART remains whether the DOR phenotype in younger patients represents solely a quantitative challenge or if there is an associated qualitative penalty after oocytes are retrieved. While quality is difficult to define, 2 reliable indicators associated with age-related decrease in oocyte efficiency are a decline in blastulation rate (BR) and an increase in aneuploidy rate (AR). With this in mind, a large database was utilized to explore the relationship between the pre-cycle (serum antimullerian hormone [AMH] level) and post-cycle (number of oocytes retrieved) determinants of DOR, and BR/AR.

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RESULTS: 1) The 10%ile threshold and the IQR for AMH were 0.5 and 1.1-4.5 ng/ml, respectively. Patients in the 10%ile group were more likely to be cancelled prior to retrieval (11.3% vs. 1.7%, p<0.01). However, the age adjusted BR was no different. Among patients pursuing PGS, AR was also not different. 2) The 10%ile threshold for oocyte yield was 5 oocytes and the IQR was 10-21 oocytes. Again, age adjusted AR was not different, while odds of blastulation were higher in the 10%ile group.

CONCLUSIONS: DOR as defined by <10%ile values for pre-cycle AMH or post-cycle oocyte yield is not associated with low BR or high AR in patients <38yo. Mechanisms governing ovarian reserve and response to stimulation appear to be different than those responsible for age-related decrease in embryo viability and increase in aneuploidy. Further studies are needed to elucidate these differences.

<table>
<thead>
<tr>
<th>Pre-Cycle DOR Comparison according to AMH within 6 months of cycle start</th>
<th>&lt;10%ile (AMH &lt;0.5 ng/mL)</th>
<th>IQR (AMH 1.1 - 4.5 ng/mL)</th>
<th>Adjusted OR</th>
<th>95% CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blastulation Rate</td>
<td>51.8% (687/1327)</td>
<td>51.5% (1341/2592)</td>
<td>0.99</td>
<td>(0.98 - 1.06)</td>
<td>0.46</td>
</tr>
<tr>
<td>Aneuploidy Rate</td>
<td>30% (108/360)</td>
<td>29% (1173/4051)</td>
<td>0.85</td>
<td>(0.6 - 1.2)</td>
<td>0.358</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Post-Cycle DOR Comparison according to Oocyte Yield</th>
<th>10%ile (&lt;5 oocytes)</th>
<th>IQR (10 - 21 oocytes)</th>
<th>Adjusted OR</th>
<th>95% CI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blastulation Rate</td>
<td>55.8% (718/1286)</td>
<td>52.4% (1341/2592)</td>
<td>1.15</td>
<td>(1.03 - 1.31)</td>
<td>0.045</td>
</tr>
<tr>
<td>Aneuploidy Rate</td>
<td>32.2% (127/394)</td>
<td>28.7% (1739/6053)</td>
<td>1.13</td>
<td>(0.88 - 1.45)</td>
<td>0.37</td>
</tr>
</tbody>
</table>

Financial Support & References:
Financial Support: None
References:

Abstract:

American Society for Reproductive Medicine
Advancing Reproductive Medicine To
Build Healthy Families
October 28 - November 1, 2017

Control/Tracking Number: 2017-A-1912-ASRM
Activity: Abstract
Current Date/Time: 5/3/2017 11:33:36 AM

QUANTITY VERSUS QUALITY: DO PATIENTS WITH DIMINISHED OVARIAN RESERVE (DOR) AND POOR RESPONSE TO STIMULATION ALSO EXHIBIT POOR BLASTULATION AND INCREASED ANEUPLOIDY?

Author Block: S. J. Morin, G. Patounakis, C. R. Juneau, S. A. Neal, R. T. Scott, Jr., E. Seli, IVI/RMA, Thomas Jefferson University, Basking Ridge, NJ; 2IVI/RMA, Lake Mary, FL; 3Yale University, New Haven, CT

Abstract:

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Awards (Complete):
  In-Training Awards for Research: True
  In-Training Travel Award*: True
  I confirm that I am an undergraduate, graduate, medical or allied health professions student, postdoctoral trainee, or clinical resident or fellow: True
  Country of Residence: United States

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Status: Complete

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