SDB AND PREGNANCY: WHAT IS NEW?

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Disclosures

• No industry sponsors
Objectives

• Review the published findings of the NuMom2b study
• Discuss the implications of the new studies
• Delineate the gaps in knowledge

Funded by NICHD, Office of Women’s research
• Sleep substudy funded by NHLBI
• 9 sites, 12 subsites
• Parent study:
  – 10,000 nulliparous women
  – Aims to study predictors and mechanisms behind adverse outcomes
Association Between Sleep-Disordered Breathing and Hypertensive Disorders of Pregnancy and Gestational Diabetes Mellitus

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- Subset of the NuMom2b trial
- Nulliparous women
- In home polysomnography
- N=3,3607


- Prevalence of SDB:
  - Early Pregnancy: 3.6%
  - Mid pregnancy: 8.3%
- Preeclampsia: 6%

<table>
<thead>
<tr>
<th></th>
<th>GDM</th>
<th>Preeclampsia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Pregnancy</td>
<td>3.47 (1.95-6.19)</td>
<td>1.94 (1.07-3.51)</td>
</tr>
<tr>
<td>Mid pregnancy</td>
<td>2.79 (1.63-4.77)</td>
<td>1.95 (1.18-3.23)</td>
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</table>
### SDB and Pregnancy Outcomes

**Li et al. Front Neurol. 2018 May 28;9:91**

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Setting</th>
<th>Number of Subjects</th>
<th>Prevalence (%)</th>
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</thead>
<tbody>
<tr>
<td>Gestational diabetes mellitus</td>
<td>In hospital</td>
<td>100</td>
<td>20</td>
</tr>
<tr>
<td>Pregnancy-induced hypertension</td>
<td>Portable</td>
<td>182</td>
<td>15</td>
</tr>
<tr>
<td>Pre-eclampsia</td>
<td>Portable</td>
<td>114</td>
<td>24</td>
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<tr>
<td>Birth weight</td>
<td>In laboratory</td>
<td>105</td>
<td>10-26</td>
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<tr>
<td>APGAR score</td>
<td>Portable</td>
<td>3,600</td>
<td>3.8</td>
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### OSA - Pregnancy prevalence

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Results are expressed as OR with 95% CI, birth weight, and APGAR score are expressed with WMD with 95% CI.
OSA and obesity increased over time


Diagnostic Testing

Overnight PSG

Portable polysomnography may underestimate AHI

Should you screen?

- Weak evidence
- What is the goal?
- Short term
  - Pregnancy risks
  - Perioperative risks
- Long term
  - Future health
  - Future pregnancy

Predictors of SDB

- NuMom2b analysis
- Visits
  - 6-13 w6d (n=3,264)
  - 22w0d-29w 6d (n=2,512)
- Predictors: BMI, age, frequent snoring

Gaps

• Diagnosis
  – Screening effectiveness
  – Definitions
• Treatment
  – Effectiveness
  – Window of susceptibility
• Mechanisms of disease

Thank you

Questions?