Psychiatry and the obstetric anaesthetist

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Outline

- The importance of the perinatal period
- Mood disorders over the perinatal period
  - Management of lithium
  - ECT in pregnancy
- Anxiety and PTSD
- Psychotic disorders
  - Competence in consent
The perinatal period

- Defined as the time from conception until 1 year postpartum
- Maternal wellbeing critical for optimal development and maturation of the human infant
- High prevalence of mental disorders over the childbearing years
- Mental illness (and its treatment) can have adverse effects on fetal and infant development
  - Maternal behaviour
    - Attachment
- Opportunities for early intervention
  - Close contact with health professionals
## Perinatal Mood Disorders

<table>
<thead>
<tr>
<th></th>
<th>The blues</th>
<th>Puerperal psychosis</th>
<th>Antenatal depression</th>
<th>Postnatal depression</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prevalence</strong></td>
<td>~70%</td>
<td>0.1%</td>
<td>~10%</td>
<td>10-15%</td>
</tr>
<tr>
<td><strong>Time of onset</strong></td>
<td>3-5 days</td>
<td>Within 3 weeks</td>
<td>Any time during pregnancy</td>
<td>Gradual onset over first 3-6 months</td>
</tr>
<tr>
<td>Following childbirth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Symptom profile</strong></td>
<td>Anxiety, Depression, Tearfulness, Lability of mood, Irritability, Emotionality</td>
<td>Psychotic symptoms (delusions/hallucinations), Manic presentation, Melancholic presentation, Indecisiveness, confusion</td>
<td>Symptoms of MDD, Low mood, Fatigue, worry</td>
<td>Symptoms of major depression, +, anxiety</td>
</tr>
<tr>
<td><strong>Course</strong></td>
<td>Benign/transient</td>
<td>Severe, -May require hospital admission, -Good remission with treatment</td>
<td>Variable</td>
<td>Gradual onset, Possible chronicity</td>
</tr>
<tr>
<td><strong>Causal factors</strong></td>
<td>? Hormonal, - Stress response</td>
<td>Biological/genetic oestrogen sensitivity</td>
<td>-Relapse of pre-existing depression, -Stress, -Sleep disturbance, -Interpersonal difficulties</td>
<td>Psychosocial, - poor relationship, -Poor support, -Dysfunctional personality style</td>
</tr>
</tbody>
</table>
Depression in pregnancy
Implications

Adverse impact on obstetric outcomes
- Preterm delivery
- Low birth weight
- Small for gestational age
- Gestational hypertension

Effects on placental functioning
- Direct
  - Neurobiological substrates of depression (glucocorticoids) -> fetus
- Indirect
  - Activation of HPA axis -> placental hypersecretion CRF

Adverse effects on fetus
- Developmental delays
- At risk for ‘mental health’ problems

(Chaudron, 2013; Yonkers et al, 2009)
ECT in pregnancy

Indications
- Moderate to severe major depression
  - Failed to respond to pharmacotherapy
  - Severe risk of suicidality
  - Psychotic features
  - Inadequate oral intake
  - Catatonia
- Intractable mania

Procedure
- Obstetric anesthetist
### Recommended practice – ECT pregnancy

<table>
<thead>
<tr>
<th>Anesthetic</th>
<th>Obstetric</th>
<th>Psychiatric</th>
</tr>
</thead>
</table>
| Maintenance of uterine perfusion  
Avoidance of maternal hypoxia.  
Maternal airway protection.  
Minimal effective dosing of anesthetic agents.  
Monitoring of vital signs until patient is stable | If gestational age 14-25 weeks monitor fetal heart rate via doppler  
If gestational age 26+ weeks – obstetrician (or senior trainee) present to monitor fetus -CTG before, during and post ECT until trace returns to normal | Monitor and prevent prolonged seizure  
Avoid hyperventilation to lower seizure threshold  
Recommend bilateral ECT  
Close monitoring of mental state |

#### Uterine perfusion:
- IV crystalloid fluid preloading
- 10-15° Left lateral or pelvic wedge tilt
## Summary of risks associated with ECT in pregnancy

<table>
<thead>
<tr>
<th>Anaesthesia</th>
<th>Electrical stimulus/Induced seizure</th>
<th>Other factors related To anaesthesia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inducing Agent (propofol/ Methohexitone)</td>
<td>Muscle Relaxant (succinyl Choline)</td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>No significant issues</td>
<td>Duration of Action increases after 30 weeks of gestation</td>
</tr>
<tr>
<td>Foetus</td>
<td>Potential neuronal cell injury (under investigation). Neither drug is associated with teratogenicity.</td>
<td>Passes placental barrier in negligible quantities</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>Long history of use of propofol and methohexitone in pregnancy for caesarean section</td>
<td>Induction of premature contractions or labour; abdominal pain; placental abruption</td>
</tr>
</tbody>
</table>
Anxiety in pregnancy

- Anxiety disorders occur during pregnancy
  - Panic disorder
  - Social anxiety disorder
  - Generalized anxiety disorder

- Anxiety related to pregnancy & delivery
  - ~80% of low risk pregnant women describe childbirth anxiety
    - Listen to concerns
    - Explaining the process
    - Psychoeducation
    - Rehearsal – visiting the delivery suite

- Preference for having an epidural
Tokophobia

- A dread or avoidance of childbirth despite wanting a baby
- ~6% of nulliparous women report severe anxiety about childbirth
  - Characteristic symptoms include:
    - nightmares
    - physical complaints
    - difficulties in concentrating on work or family activities
- Request for elective Caesarean section

- Psychoeducation
- CBT
- Support
Post Traumatic Stress Disorder

Approximately 3% of women experience PTSD following childbirth higher in at-risk populations

- Traumatic childbirth
  - Instrumental delivery
  - Excess pain – inadequate pain relief
  - Stillbirth
  - Loss of control

- Impact on:
  - Woman’s functioning
    - PTSD symptoms
    - Depression
    - ‘anxiety disorders
  - Intimate relationship
    - Sexual functioning
  - Infant
    - Impaired quality of the mother-infant relationship
Post Traumatic Stress Disorder

Management
- Debriefing
  - Allowing women time to talk about the birth experience

Prevention
- Explaining to women what will happen
- Respectfully listening to concerns
- Having clear plans in place
  - When to have epidural...
  - How to ask for it...
  - Allowing her to request analgesia
- During labour –
  - Explaining what is happening or what procedure is to take place
Borderline personality disorder

- Characterised by affective or emotional dysregulation
- Disturbed interpersonal relationships
- Capacity to induce strong emotions in others (very positive to hostile)
  - Idealisation
  - Devaluation
- Significant trauma history
  - Can feel retraumatized during labour
    - dissociate
- Splitting within clinical teams
  - Good vs bad
  - Can cause chaos in medical settings
    - Risk
      - Loss of objectivity in medical decisions
Bipolar disorder and pregnancy

- **Risk of relapse when ceasing medication vs risks of taking medication**

<table>
<thead>
<tr>
<th></th>
<th>Not taking medication</th>
<th>Taking medication</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Benefits</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>No adverse effects of medication</td>
<td>Maternal wellbeing</td>
</tr>
<tr>
<td>Foetus</td>
<td>No risk of harm from medication exposure</td>
<td>Reduced risk of impact of maternal relapse</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Risk of foetal exposure to medication</td>
</tr>
<tr>
<td><strong>Risks</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>Persistent symptoms or relapse</td>
<td>Adverse effects of medication</td>
</tr>
<tr>
<td>Foetus</td>
<td>Impact of illness on foetal development</td>
<td></td>
</tr>
</tbody>
</table>

- Women are a high risk of postpartum relapse
- Lithium now considered medication of choice
Meta analysis postpartum relapse

3a. Overall relapse rate postpartum per diagnostic group (95% CI)

<table>
<thead>
<tr>
<th>Diagnostic group</th>
<th>Rate</th>
<th>Lower limit</th>
<th>Upper limit</th>
<th>Total n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bipolar disorder (BD)</td>
<td>38%</td>
<td>30%</td>
<td>46%</td>
<td>5485</td>
</tr>
<tr>
<td>Isolated history of postpartum psychosis only (PP)</td>
<td>31%</td>
<td>22%</td>
<td>42%</td>
<td>585</td>
</tr>
<tr>
<td>Overall</td>
<td>36%</td>
<td>29%</td>
<td>42%</td>
<td>6070</td>
</tr>
</tbody>
</table>

I² BD=95%, I² PP=78%, df=1, Q=0.91, p=0.340

Definitions of relapse: psychosis, (hypo)mania, depression (or a mixed episode), and/or psychiatric hospitalization.

Number of included studies per diagnostic group: BD n=24; PP n=12; BD and PP n=1

3b. Overall severe relapse rate postpartum per diagnostic group (95% CI)

<table>
<thead>
<tr>
<th>Diagnostic group</th>
<th>Rate</th>
<th>Lower limit</th>
<th>Upper limit</th>
<th>Total n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bipolar disorder (BD)</td>
<td>16%</td>
<td>12%</td>
<td>21%</td>
<td>5199</td>
</tr>
<tr>
<td>Isolated history of postpartum psychosis only (PP)</td>
<td>29%</td>
<td>20%</td>
<td>42%</td>
<td>521</td>
</tr>
<tr>
<td>Overall</td>
<td>19%</td>
<td>15%</td>
<td>24%</td>
<td>5720</td>
</tr>
</tbody>
</table>

I² BD=89%, I² PP=78%, df=1, Q=6.25, p=0.012

Definitions of relapse: psychosis, mania, mixed episode, and/or psychiatric hospitalization.

Number of included studies per diagnostic group: BD n=20; PP n=11; BD and PP n=1

(Wessaloo et al, 2015)
### Mercy Hospital for Women lithium carbonate: pregnancy monitoring

<table>
<thead>
<tr>
<th>Baseline</th>
<th>8/4</th>
<th>12/40</th>
<th>16/40</th>
<th>20/40</th>
<th>24/40</th>
<th>28/40</th>
<th>32/40</th>
<th>36/40</th>
<th>38/40</th>
<th>40/40</th>
<th>After birth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Level</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>U&amp;E</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>TFT</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>FBE/LFT</td>
<td>✓*</td>
<td></td>
<td>✓*</td>
<td>✓*</td>
<td></td>
<td>✓*</td>
<td></td>
<td>✓*</td>
<td></td>
<td>✓*</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Ultrasound for NT assessment</td>
<td>High resolution ultrasound for early cardiac assessment. Doppler flow studies</td>
<td>Morphologica I scan with attention to fetal echo</td>
<td>Review growth at 28 and 34 weeks or as indicated</td>
<td>Observe infant for withdrawal/toxicity Infant: cord blood lithium level. TFT and U&amp;E.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* - If indicated

FBE, full blood examination; FT3, Free Thyroxine T3; FT4, Free Thyroxine T4; LFT, liver function tests; NT, nuchal translucency; TFT, thyroid function tests; TSH, thyroid-stimulating hormone; U&E, urea and electrolytes

(Galbally *et al.*, 2010)
Lithium and labour

- Dose reduction from ~36 weeks gestation
- Cease lithium 48 hours prior to labour
- Lithium passes though the placenta
  - Lithium toxicity in infant
  - ‘floppy infant syndrome’
    - Hypotonia
    - Poor suckling
    - Tachypnoea
    - Tachycardia
    - Respiratory distress
- Risk to mother of lithium toxicity – ensure adequate hydration
  - Dehydration during labour
    → High serum levels → toxicity
Schizophrenia and motherhood - Pregnancy outcomes

- High rates of poor pregnancy outcomes
  - Increased rates of:
    - Stillbirth\textsuperscript{1,2}
    - Neonatal death\textsuperscript{2}
    - Low birth weight\textsuperscript{1}
    - Preterm delivery\textsuperscript{1}
    - Small for Gestational Age\textsuperscript{1}

\textsuperscript{1} Nilsson et al, 2002 \textsuperscript{2} Howard et al, 2003
Women under the mental health act
Labour plans

- Women with severe psychosis may be held under the mental health act
- Plan labour
  - *Discuss & explain options* – including analgesia option
    - May require more than 1 session
  - Consent in advance
    - Especially for interventions
  - Key issue is **capacity**
    - Understand the information relevant to the decision
    - ‘use or weigh’, that information as part of the process of making the decision
    - Communicate the decision.
  - Psychosis (and detention under the MHA) not related to capacity

Women will generally not refuse analgesia - but may have some paranoid delusions about the need for it.
- May require sedation during labour
Thank you for your attention

Questions?