ECT in Pregnancy and the Postpartum Period

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ECT – searches/overview of evidence

- Medline, Embase, Psychinfo, Pubmed
  - No prospective randomised controlled studies
  - 5 existing guidelines
    - Review of case series and case reports from 1941
  - Postpartum
    - various reviews/reports on treatment of PND, PP, Affective disorders
    - Differences in response between puerperal and non puerperal psychosis (Reed et al 1999)
    - Virtually no mention of effects on breast feeding
ECT – current guidelines

- **2003 NICE (ECT technology appraisal 59)**
  - Use of ECT in pregnancy is known to cause complications. Insufficient data to allow risk-benefit assessment. Condition has to be life threatening

- **2005 ECT Handbook (RCPsych)**
  - The administration of ECT in pregnancy is possible, depending on gestation. Condition does not have to be life threatening. States what specific precautions should be taken

- **2007 NICE A+P Mental Health (45)**
  - ECT should be considered in pregnant women with severe depression, severe mixed affective states, mania, catatonia, whose physical health or that of baby is at serious risk
ECT – current guidelines

- **2009 Report from APA + AmCO+G (Yonkers et al)**
  - ECT is low risk in pregnancy. Depressed pregnant women who have not responded to antidepressants or are psychotic, suicidal or severely disabled are candidates for ECT. Some women with severe depression may prefer it because of its rapid effect.

- **2012 SIGN**
  - There is no good quality evidence relating to use of ECT in pregnancy. Based on case reports, a review concluded that ECT in pregnancy is effective and that the risks to woman and child are low.
ECT in pregnancy – safety and efficacy

- Insufficient good quality data to state that ECT is definitely safe and efficacious in pregnancy

- Problems with data
  - Variation in trimester
  - Variation in number of ECTs
  - Variation in diagnosis
  - Variation in outcome measures
  - Incomplete data
ECT in pregnancy – safety and efficacy

- But review of cases (Anderson 2009) reveals low risks – of 339 cases, 25 foetal/neonatal complications, with 11 (3.24%) likely related to ECT
  - These included 8 cases of transient foetal arrhythmias, one foetal death secondary to status epilepticus, one miscarriage in the 1st trimester 24 hours post ECT and one case of multiple cortical and deep white matter infarctions after multiple ECT courses
- 20 maternal complications with 18 (5.31%) likely related to ECT
  - These included status epilepticus (1), haematuria (1), vaginal bleeding (2), abdominal pain (1), placental abruption (1) and uterine contractions and/or preterm labour (the rest)
ECT in pregnancy – safety and efficacy

- Anaesthetic agents (profonol, thiopental, etomidate) do not cause problems in pregnancy unless used during delivery, when infant respiratory depression may occur.

- Neuromuscular blocking drugs do not cause problems in pregnancy except suxamethonium which may cause slightly prolonged maternal neuromuscular blockade.

- Suxamethonium (rapidly acting, depolarising muscle relaxant) has no direct action on the uterus or other smooth muscle structures. In normal therapeutic doses it does not cross the placental barrier in sufficient amounts to affect the infant.
ECT in pregnancy – safety and efficacy

- Routine use of Anticholinergic agents are contraindicated in pregnant women undergoing ECT because they may increase the risk of regurgitation and aspiration.

- Seizure threshold may be affected by many factors in pregnancy (hormones, sleep deprivation). The threshold varies from woman to woman.

- Modifications to ECT technique in pregnancy
  - Foetal monitoring, site of ECT in relation to obstetric care, cricoid pressure, intubation, use of sodium citrate, avoid excessive hyperventilation, positioning of patient to prevent aorto-caval compression, consideration of venous thrombosis risk, follow up of baby postpartum.
ECT in pregnancy – safety and efficacy

- General guidance about ECT includes statements about cognitive impairment
- No data available on effects of ECT on cognitive impairment in pregnant and breast feeding mothers
- There is no published data on the effects of ECT on the neuro-development of the foetus/baby
  - Follow RCPsych Guidance – ‘bilateral placement is preferred when speed and/or completeness of recovery has priority; unilateral placement preferred when minimising adverse cognitive effects has priority’. Risk to be discussed with patient/family, avoid excessive supra-threshold electrical doses
ECT postpartum
- safety and efficacy

- ECT may have a more rapid effect in postpartum psychosis than in non postpartum psychosis (Reed et al 1999)
  - Retrospective case note review of 60+ postpartum women vs 60+ non postpartum women

- ECT can be administered to breast feeding mothers because the drugs used for anaesthesia and neuromuscular blockade are very short acting and hardly pass into breast milk
  - Breast feeding can be resumed as soon as the mother has recovered sufficiently from anaesthesia and neuromuscular blockade

- Consider the risks of venous thrombosis
ECT - interactions between anaesthetic drugs/psychotropics

- risk of arrhythmias + ↓BP when GA given with TCAs
- sedation when GA given with hypnotics/anxiolytics
- ↓BP when GA given with antipsychotics
- Effect of muscle relaxants enhanced by lithium
- Effect of non depolarising muscle relaxants antagonised by carbamazepine and phenytoin

- GA and muscle relaxants have minimal effect on foetus (unless used in labour), or breast milk
- BZAs increase seizure threshold
Recommendations

- Considering what the alternatives are, one may consider ECT for treatment of severe depression, severe mixed affective states, severe mania or catatonia in pregnant women whose physical health or that of the baby is at serious risk, or where there is insufficient time to wait for improvement with psychotropic medication.

- BUT potential neuro-developmental effects on the developing foetus are unknown.

- Considering what the alternatives are, one may consider ECT for treatment of severe depression, severe mixed affective states, severe mania or catatonia in postpartum women whose physical health is at serious risk, or where there is insufficient time to wait for improvement with psychotropic medication.

- Breast feeding can continue during a course of ECT.

- National register (? via ECTAS or national teratology agency) to record any cases where ECT is given in pregnancy.
References