Electroconvulsive Therapy

–Notes for Debate,
–Bioethics Meeting
–8 May 2007
Who am I?

- Academic community psychiatrist
  - Attended ECT training, Northside Clinic, 2005
- On list to approve ECT (Section 60 Mental Health Act).
When is ECT used.

• Depression.
  – Severe, melancholic.
  – Resistant to treatment.
  – Treatment options not tolerated, or higher risk
  – Patient preference.

• Mania

• Acute relapse schizophrenia, esp. catatonia.

• Neurological disorders, esp. Parkinson's & status epilepticus.
Evidence for ECT

- Depression.
  - Three meta-analyses
    - ECT > sham ECT
    - ECT > medications (TCA, MAOI, paroxetine)
    - ECT > rTMS

- Mania
  - Open trials

- Schizophrenia
  - Open trials
  - ECT < antipsychotics.
Cognitive effects

• Acute
  – Confusion.
  – Disorientation
    • Measured as Time to reorientation or time to talking.

• Up to four weeks
  – Decreased learning of new material

• Longer term?
  – Loss of autobiographical material.
Reduction of side effects and effect.

- Placement
  - Right Unilateral (RUL)
  - Bilateral
  - Bifrontal
- Dosage
  - 2-3x threshold
  - 6-8x threshold
  - Fixed
- Type current
  - Sine
  - Square
  - Sine worse than square.
  - Low dose less effective, less side effects
  - Bilateral more effective, more side effects
  - RUL @ 6x as effective as Bilat. @ 2x but less side effects.
Long term effects.

- Naturalistic trial 375 patients, 9 centres.
  - 2 using sine wave machine has more cog. side effects (also fixed dosing)
  - Site mattered more than type.
- Bilateral lead to more autobiographical memory losses.
- Some memory loss persisted for six months.
What ECT now involves

- A brief anaesthetic (including paralysis)
- EEG (brainwave) monitoring.
- ECG (heartbeat) monitoring.
- Use of minimal dose of electricity to cause an effective seizure.
- Monitoring clinical outcome.
ECT in Australia & New Zealand.

• RANZCP guidelines ECT mandate:
  – Levels of equipment.
  – Supervision by consultant psychiatrist and consultant anaesthetist
  – All trainees must.
    • be aware of the
      – nature of ECT
      – Seriousness of ECT
      – Experience of patients undergoing ECT.
    • Treat 10 patients under supervision, using a stimulus titration method.
Rate of ECT use.

per 100 000 population.

New Zealand 8
Scotland 19.7
Wales 22
Victoria (Australia) 44
Queensland (Australia) 34
Western Australia 14

From Melding, NZMJ 2006
Consent for ECT.

- Consent
  - Must include giving information in writing.

- If unable to consent.
  - If is not mentally disordered (in terms mental health act), cannot treat.
  - If is mentally disordered, cannot treat without second opinion that in patients' best interests.
  - This opinion can only be given by those approved by the (National) MHA review tribunal.
Research.

- Most recent meta-analysis (J ECT, 1995)
  - Efficacy when compared to:
    - Placebo
    - Sham ECT.
- Cognition testing improves with ECT (AREAN data, unpublished).
- There are at times loss of declarative memory.
- 85% of psychiatrists would receive ECT if depressed (Scot Med J, 2007)
Patient's attitudes to ECT (Mayo Clinic Proc 1999)
Suggestions.

- ECT remains useful as a treatment.
- Like all psychiatric treatments, it has side effects.
- The safeguards within the current system are not perfect, but good enough.
- We are probably too cautious in using ECT.
- Removal of ECT as an option is highly likely to be life threatening for profoundly depressed and catatonic patients.