

Recent developments in ECT

Dr. Chris Freeman
RCPsych Training day for ECT
Kings Fund London Dec. 2000

ECT website

- Maintained by SEAN (Scottish ECT Audit Network)
- www.sean.org.uk

Anaesthetic Agents / ECT

- Etomidate :
Saffer, Beck 1998
- Propofol Vs. Methohexitol :
Seretsegger et al. 1998

Treatment Algorithms in Depression

Journal of ECT (16) 1 2000

- ECT always listed near the bottom
- Often 6-8 steps before ECT
- Some protocols recommend 2-4 years of treatment before ECT
- Why save best to last?

Seizure Threshold in ECT

Journal of ECT (16) 2000

- Only 28% of variance can be predicted
- Increased age
- Male gender
- Greater burden of medical illness
- Weight
- Duration of mood disorder
- History of previous ECT

Seizure Threshold in ECT

Following not associated:

- Weight adjusted methohexitone dosage
- Low dose benzodiazepine use

ECT in California

Rates of ECT

1984 1.15 patients/10,000 population

1994 0.80 patients/10,000 population

(1977-83 1.12 patients/10,000 population)

ECT in California

- Only 6% of patients in public hospitals
- Only 2.1% patients Black
- Only 3.8% patients Hispanic
- Only 2.89% patients involuntary

Typical ECT patient:
white/female/private/elderly

ECT in California

Death Rate 0.19 deaths/10,000
treatments

ECT and Antidepressants

Kellner 1998

Lauritzen 1996 Acta Psych. Scand.

- Enhanced effect
- Reduced relapse rate

Samage & Plant 1995

- Prolonged seizures when fluoxetine withdrawn

ECT and Antidepressants

Tobiansky & Lloyd 1995

- Augmentation with fluoxetine

Curran 1995 Acta Psych. Scand.

- Modest increase in seizure duration with paroxetine (mean only 38 sec.)

Venlafaxine and ECT

Bernardo 2000

- Reports of minor dose dependent increase in BP
- Reports of prolonged seizure activity
- Bilateral ECT
- Venlafaxine 150mg/day
- No increase in seizure length vs. tricyclics
- No increase in blood pressure vs. tricyclics

Sackheim et al 2000

- Archives Gen. Psych May 2000
- 80 patients randomly allocated to
 - Bilateral ECT 150% above threshold
 - Right unilateral ECT at 50%, 150% or 500% over threshold
- Methohexitone 0.75mg/kg

Sackheim 2000 (cont)

- Results
- Bilateral and high dose unilateral did not differ in terms of antidepressant effect
- Two low dose regimes were less effective but did not differ from each other

Sackheim 2000 (cont)

- What to make of this study
- Sample stratified for non drug response
- 4 groups 80 subjects
- 41 patients didn't respond, 36 were then put into crossover phase
- They then received a mean of 7.6 high dose bilateral treatments
- Mean seizure durations 50-60secs

Sackheim et al 2000 (cont)

- All drugs stopped at least 5 days (mean 7 days) max 30 days before ECT
- Nearly all patients received lorazepam up to 3mg/day.
- 20% of patients received TCA and SSRI in follow up

Sackheim et al

- Bupropion, stimulant and clonidine
- Trazodone, bupropion and lithium.
- Verapamil alone
- MAOI, stimulant and Cont ECT

Vaughn McCall et al 2000

- Archives Gen Psych 57 May 2000
- Right unilateral ECT (titrated from initial 2.25 seizure threshold (136mc)
- Right unilateral at high fixed dose (403mc)

- 72 Adult patients randomly allocated
- D'Elia electrode position
- Methohexitone 1mg/kg

Vaughn McCall (cont)

- Titration procedure
- Started at 32mc, 50% increase after 20 secs. Up to 4 stimulations
- 32mc, 48mc, 72mc, 108mc??
- Seizure threshold reached in all patients after 4 stimulations
- Defined as 25 secs at ankle cuff or 30 secs EEG
- Other group received 403mc at second session

Vaughn McCall (cont)

- Results:
- Antidepressant response as a multiple of seizure threshold

2.25 x threshold 1.00

3-5 x threshold 1.77

8-13 x threshold 6.00

Vaughn McCall (cont)

- Global Cognitive disturbance as a multiple of seizure threshold

2.25 x threshold 1.00

3-5 x threshold 3.50

8-13 x threshold 9.00

Lisanby et al 2000

- Archives Gen. Psych. June 2000
- Effects of memory on Autobiographical and Public events
- Bilateral ECT and high and low dose unilateral.
- 52 patients compared with 32 controls

Lisanby 2000 (cont)

- All patients had memory deficits
- Best patients returned to baseline after ECT.
- Impersonal memory affected most
- High salience personal memories retained better
- Not most recent memories lost

Lisanby et al 2000 (cont)

- Bilateral ECT much more marked effects
- Particularly for impersonal events
- Not related to treatment outcome
- Not related to electrical dosage

Westphal and Rush

- Journal of ECT 16 2000
- Statewide survey of ECT policies and procedures
- Restimulation policy 0%
- Policy to abort prolonged seizures 0%
- Policy to manage cardiovascular complications 14%

ECT in the Movies

Walter 1998

- Angel at my table (1990) : ECT 1946
- Cosi (1996) : ECT lethal
: Smoke billows from ECT
machine
- Shine (1996) : ECT 1970

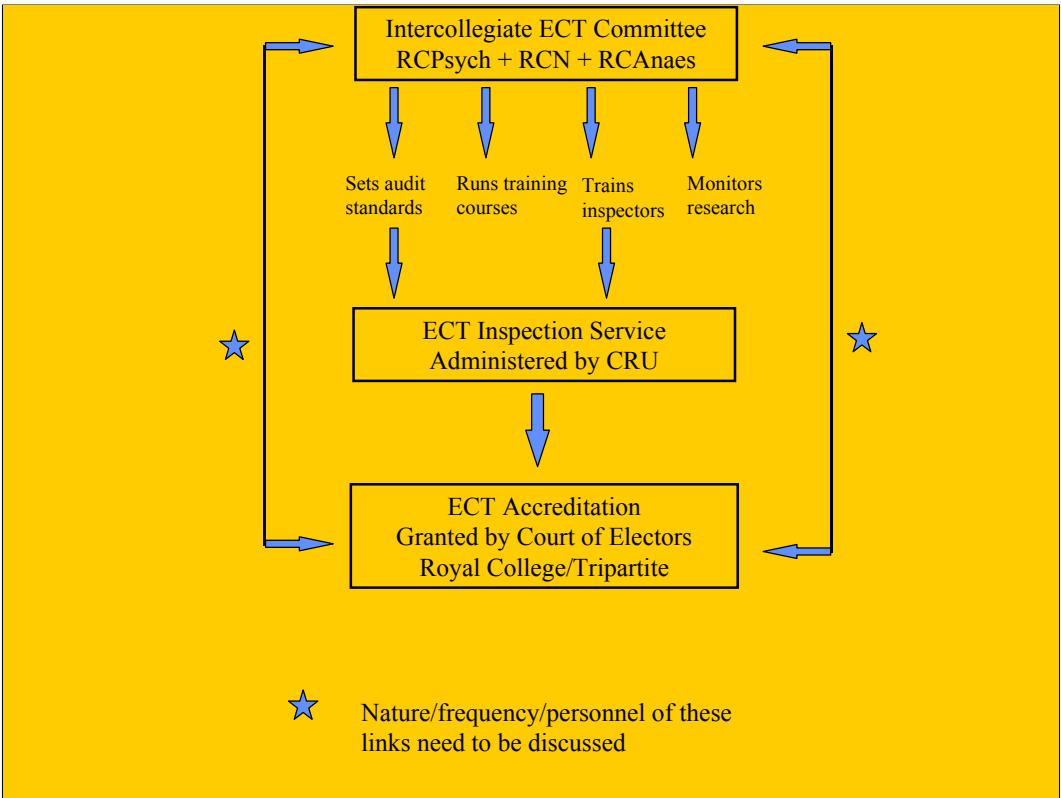
- The Snake Pit (1948)
- Fear Strikes Out (1957)
- Shock Corridor (1963)
- Shock Treatment (1964)
- A Woman under Influence (1974)
- Cuckoo's Nest (1975)
- The Fifth Floor (1980)
- Frances (1982)
- Death Wish II (1982)
- Return to Oz (1985)

ECT accreditation

- Intercollegiate. R.C.Psych, R.C.N. and R.C. Anaes.
- Standards set by ECT special committee
- Standard will be ECT handbook at first
- Certification by Court of Electors on behalf of three colleges
- Appeal to Special Committee

Nature of Inspection

- Genuine wish to make it collaborative
- Psychiatrist, Nurse, Anaesthetist, Lay member.
- Gradually move towards a regional system with an ECT clinical network in each region.
- Inspections audited by an independent body eg Kings Fund



Nature of Inspection(cont)

- Inspections managed by College Research Unit. (C.R.U.)
- New inspectors will be needed
- Special Committee will train
- Core of team will be Psychiatrist and Nurse.

ECT training and CPD

- Next training day Dublin Mar.2001
- Two day meeting Dec.2001 London
 - One day introduction as today
 - One day for established ECT staff
- Advanced ECT training Edinburgh Feb.2001
- Annual meeting July London 2001 (A mind Odyssey) ECT around the World.

ECT training 2

- Training for inspection teams Mar. April 2001
- Advanced training for nurses
- Do we need a briefing day before ECT Handbook 2001 launched? It will include the new audit standard.