E.C.T. : A GUIDE FOR STUDENTS and TRAINEES

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HISTORY

• Early 20th cent. “Forced normalisation”
• 1938 Meduna: cardiazol seizures
• 1939 Cerletti & Bini: electrical induction
• 1951 Slater paper
• 1950`s-1960`s: overuse, disrepute, anti-psych movement
• 1980`s RCPsych: audits, standard setting
• 2003 ECTAS
MODERN USAGE 1: INDICATIONS

- Depressive illness
- severe/ resistant mania
- puerperal psychoses
- catatonia
- other:  - Parkinson`s
- neuroleptic malignant syndrome
MODERN USAGE 2 : ADMINISTRATION

• Brief pulse
• Bilateral
• Policies for titration of dose
• only certain machines approved
• EEG monitoring
DOSE TITRATION

• Significant individual variation in seizure threshold (ST)
• Initial aim is to determine pt.`s ST
• Therapeutic dose = moderately supra ST
• Individualisation of treatment-to keep dose at minimum
• Side effects related to dose used
FACTORS AFFECTING SEIZURE THRESHOLD

**INCREASED**
- BENZODIAZEPINES
- ANTICONVULSANTS
- AGE
- BALDNESS
- MALE
- THICK SKULL
- RECENT ECT
- BILAT. ECT

**DECREASED**
- ANTIPSYCHOTICS
- TRICYCLICS
- CAFFEINE
- HYPERVENTILATION
- METHOHEXITONE
- THEOPHYLLINE
- BETA BLOCKER-
  - SHORTENS SEIZURE
Early evidence of effectiveness
1950`s Paper by Eliot Slater in J. Ment. Sci. :
reduction post war of death rate from depression to
1/8 of pre war rate subsequent to intro. Of E.C.T.
Study excluded suicides . Causes would have been:
• dehydration / malnutrition
• infection / D.V.T.&P.E.
• bed sores
Other consequences ( of chronic depression)
• osteoporosis , cognitive impairment (?)
• psychosocial- loss of confidence, work, marriage
EVIDENCE
Efficacy and safety of ECT: depressive Disorders: Lancet 36 March 2003

• Meta analysis of studies of short term efficacy
• ECT vs. Sham: effect size = -0.9
• ECT vs. meds: effect size = -0.8
• Bilat vs. Unilat: effect size = -0.3
EVIDENCE CONTINUED- LANCET PAPER

• Trade off of efficacy and side effects
• greater cog. Imp. If:
  _ bilateral
  _ high dose
  _ > 2 treatments per week
EVIDENCE CONT.: *Lancet paper*

No data on:

- long term efficacy
- details of cog. Problems
- maintenance treatment
- the elderly
- pregnancy
- adjunctive treatment
CONTRAINDICATIONS TO ECT

Arguably, nil absolute balance of relative contraindications:
• recent M.I. Or C.V.A.
• Aneurysm
• raised intracranial pressure
• DVT

Against risk of psychiatric disorder
n.b. ECT safe if pacemaker working & pt. insulated
POSSIBLE MECHANISMS OF ACTION

INCREASED
ACTH, prolactin, TRH
Oxytocin, endorphin, vaso-
pressin release
5HT metab., 5HT2 regulation
Da, 5HT, Norad. turnover
REM latency
BDNF expression

DECREASED
Beta & muscarinic receptor regulation
Csf & plasma Ca
G protein coupling
N.I.C.E. REPORT
Guidance on the use of electroconvulsive therapy
April 2003

• Restricted indications
• Emphasis on obtaining valid consent
• Monitoring of clinical state
• Monitoring of cognitive function
• Importance of training & audit
PATIENT PERSPECTIVES ON ECT: SYSTEMATIC REVIEW

*Rose et al BMJ 2003 326 1363-5*

- Systematic review of studies of patients views post ECT
- perceived benefit depended on when questionnaire was administered & by whom
- at least 1/3 pt`s reported memory loss
  - retrograde/ autobiographical
  - i.e. not routinely tested
USEFUL SOURCES OF INFORMATION

• Edinburgh textbook of Psychiatry
  appendix 2 by C. Freeman
• Principles & practice of geriatric psychiatry
  chapt. 77 by D. Wilkinson
• A History of Psychiatry by Edward Shorter
  pp 207 -224
• www.sean.org.uk