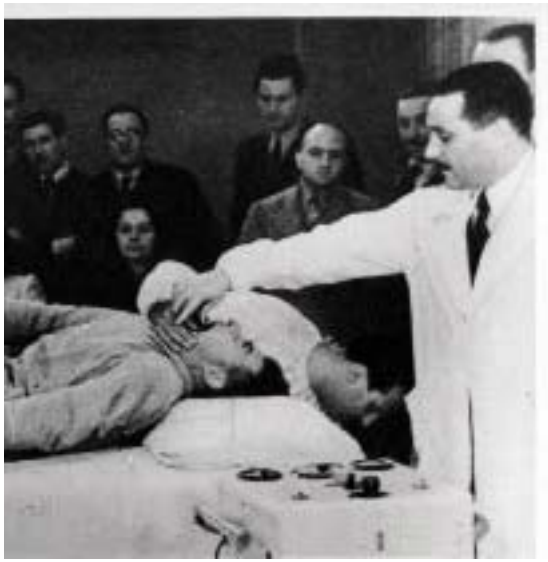
# ECT for schizophrenia

*Prof George Kirov*

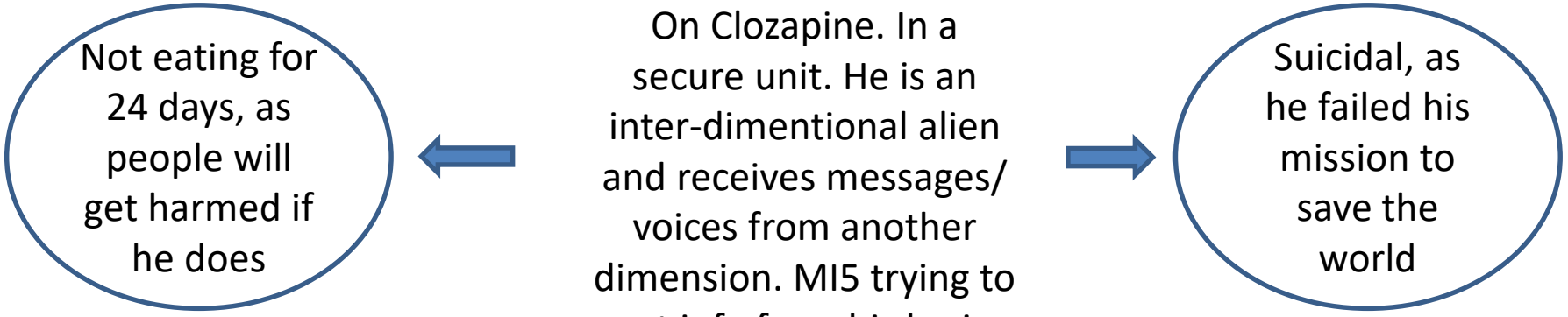
*Cardiff University*

# Rome, 1938



- Cherletti & Bini: First ECT in a human: 11 April 1938.
- “After 10-20 shocks the improvements in most patients were startling.”
- These were mostly schizophrenia patients.

# Case study DP, 31 y, ill since age 14




Start ECT on section. CPRS = 40
Capacity regained after 6 ECT, consented. Not suicidal.
After 10 ECTs asked if he can continue after #12. Feels better in his mood.
“Do you think the voices will disappear if I have more than 12 ECTs?”

But: After 21 ECTs: score 24; still psychotic, hears voices, not a “responder” according to criteria.

# RCPsych Statement on ECT

## Position statement CERT01/17

There is weak evidence that ECT is effective in schizophrenia but it may have a place in the management of some patients.

ECT may be an effective and safe augmentation strategy in Treatment Resistant Schizophrenia.

ECT may be considered as a first line treatment in life threatening catatonia. A higher number of ECT treatments may be required than is standard for other clinical indications (Lally et al, 2016).

# American Psychiatric Association taskforce on ECT

American Psychiatric Association. The practice of electroconvulsive therapy: recommendations for treatment, training, and privileging (A task force report of the American Psychiatric Association). *American Psychiatric Pub*. 2001:

*A substantial number of patients with medication-resistant schizophrenia benefit whenever treated with the combination of ECT and antipsychotic medications*.

*ECT should be considered when there is treatment resistance.*

# NICE Guidelines 2003

## Technology Appraisal Guidance 59. Guidance on the use of electroconvulsive therapy

4.1.4 The combined weight of evidence suggests that ECT is not more effective, and may be less effective, than antipsychotic medication.

4.3.6 The evidence for the effectiveness of ECT in schizophrenia in general was not conclusive and therefore ECT is not recommended in this population.

7.4.10 ECT is not used in the general management of schizophrenia.

# NICE Guidelines 2014

## Clinical Guidance 178: Psychosis and schizophrenia in adults: prevention and management

ECT not recommended

# Cochrane Review: Tharyan & Adams, 2005

9 trials with 400 patients

ECT vs. placebo or sham: RR = 0.76

Early advantage not maintained in the long-term

ECT vs. antipsychotics: favours antipsychotics

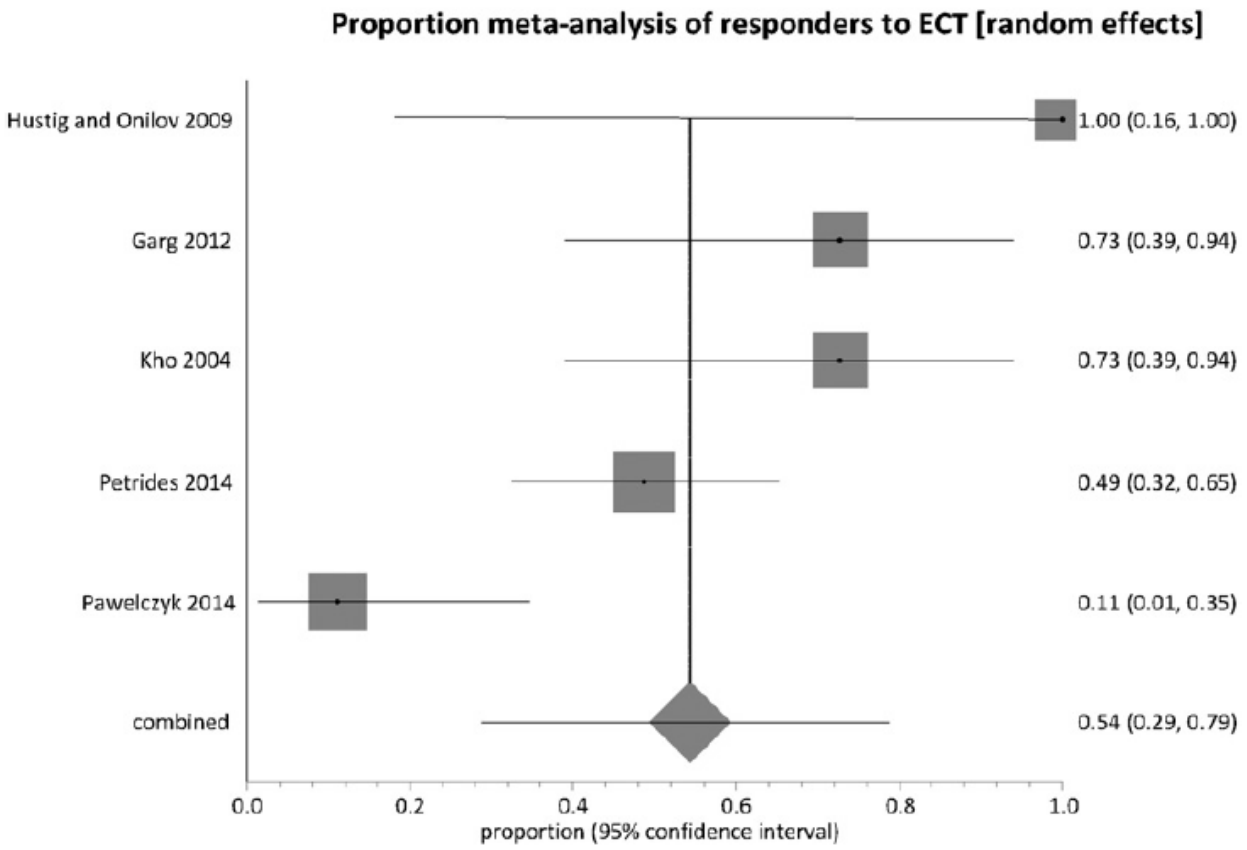
# Clozapine + ECT studies

## Augmentation of clozapine with electroconvulsive therapy in treatment resistant schizophrenia: A systematic review and meta-analysis

John Lally [a,b,*], John Tully [c], Dene Robertson [d,e], Brendon Stubbs [f,g], Fiona Gaughran [a,b,h,1], James H. MacCabe [a,b,1]

5 clinical trials with 71 people: 54% response rate

*J. Lally et al. / Schizophrenia Research 171 (2016) 215–224*



# Review: Lally et al, 2015

Augmentation of clozapine with electroconvulsive therapy in treatment resistant schizophrenia: A systematic review and meta-analysis

John Lally [a,b,*], John Tully [c], Dene Robertson [d,e], Brendon Stubbs [f,g], Fiona Gaughran [a,b,h,1], James H. MacCabe [a,b,1]

Total of 192 if people from chart reviews are added:

76% response rate for Clozapine+ECT;
mean of 11.3 ECTs
"ECT may be an effective and safe clozapine augmentation strategy in TRS".
"A higher number of ECT treatments may be required (limited data)"

# How to define response?

- 20% improvement on BPRS / PANSS
- 30% improvement on BPRS / PANSS
- 40% improvement on BPRS / PANSS
- 50% improvement on BPRS / PANSS
- 40% improvement on psychotic subsections of BPRS / PANSS

All of the above

# How to define remission?

Brief Psychiatric Rating Scale

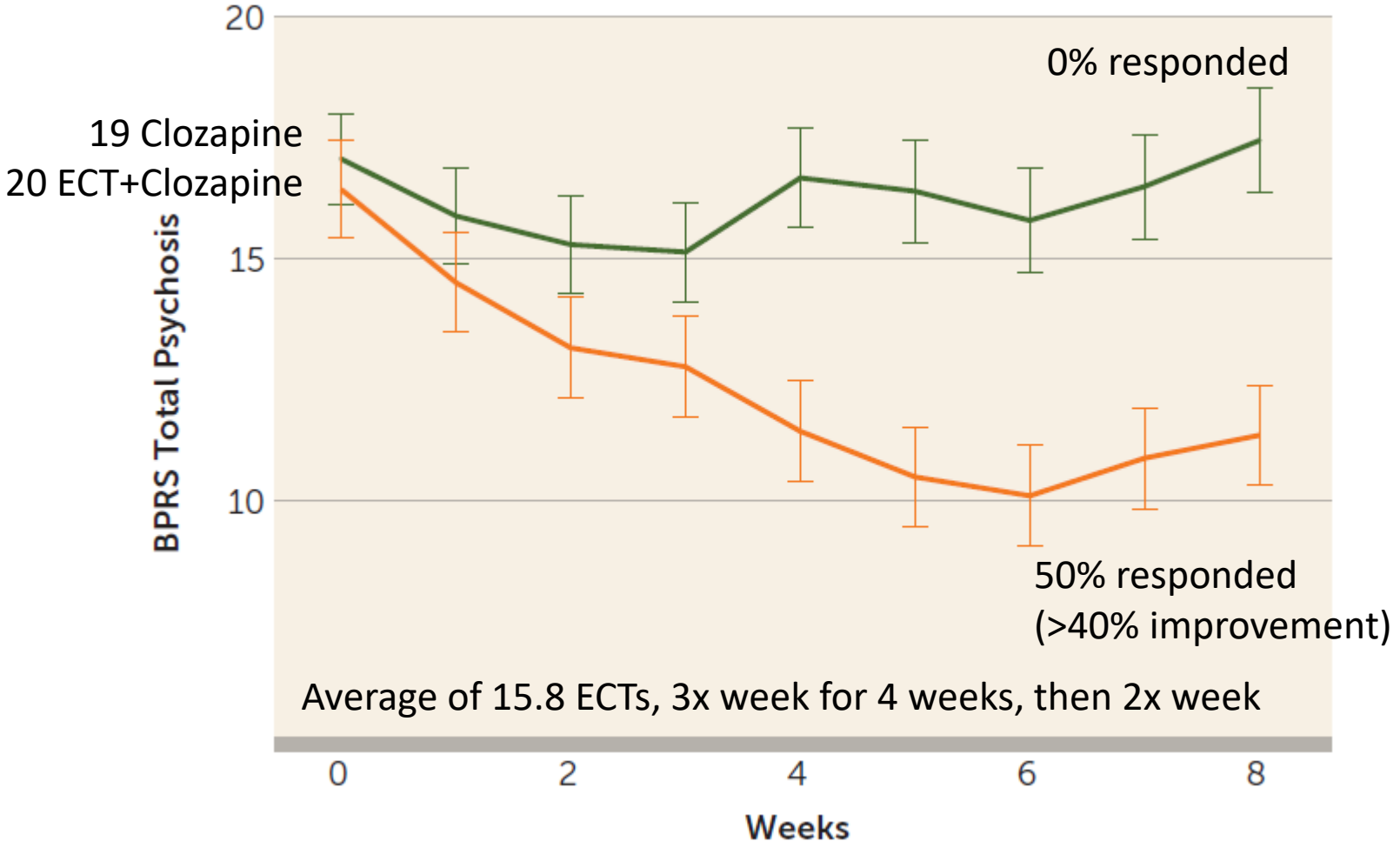
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Item | absent | very mild | mild | moderate | moderately severe | Severe | Extremely severe |
| 10. Hallucinations | | | | | | | |
| 11. Unusual thoughts content (delusions) | | | | | | | |
| 12. Bizarre behaviour | | | | | | | |
| 13. Self-neglect | | | | | | | |
| 14. Disorientation | | | | | | | |
| 15. Conceptual disorganization | | | | | | | |
| 16. Blunted affect | | | | | | | |
| 17. Emotional withdrawal | | | | | | | |
| 20. Uncooperativeness | | | | | | | |
| 22. Distractibility | | | | | | | |
| 24. Mannerisms and posturing | | | | | | | |

"Mild", "very mild", or "absent" scores on psychosis items

# Electroconvulsive Therapy Augmentation in Clozapine-Resistant Schizophrenia: A Prospective, Randomized Study

*Am J Psychiatry 172:1, January 2015*

Georgios Petrides, M.D., Chitra Malur, M.D., Raphael J. Braga, M.D., Samuel H. Bailine, M.D., Nina R. Schooler, Ph.D., Anil K. Malhotra, M.D., John M. Kane, M.D., Sohag Sanghani, M.D., Terry E. Goldberg, Ph.D., Majnu John, Ph.D., Alan Mendelowitz, M.D.



# How common is ECT for SCZ?

- ECTAS: 2016-17: 13
  2014/15: 27
  2012/13: 9
  } ~1%
- Denmark: 7% of ECT patients have SZC
- Canada, 2009 -2014, Knight *et al*: 25% of ECT patients
- Hungary, 2014, Asztalos *et al*: 31.7%
- China: 6.1% of SCZ patients received ECT
- Japan: 1.8% of SCZ patients received ECT
- Eastern Europe: in 5 countries SCZ is the main indication for ECT. In Slovenia ECT is banned.

# A flood of interest in 2017:


**Electroconvulsive therapy (ECT) in schizophrenia: a review of recent literature**

**Curr Opin Psychiatry** 2018, 31:213–222

*Sohag N. Sanghani*[a], *Georgios Petrides*[a], *and Charles H. Kellner*[b]

| Study | Country | Patients | Outcome | |
|---|---|---|---|---|
| Lin et al., | Taiwan | 2074 | Reduced rate of hospitalisations | |
| Kaster et al. | Canada | 144 | 76.7% responded (CGI criteria) | |
| Grover et al. | India | 59, CZP | 60% had >30% reduction on PANSS | |
| Tar et al. | Singapore | 62 | 64.5% had >40% reduction on BPRS psychotic sub-scale | |
| Bansod et al. | India | 82 | “significant” improvements on PANSS, impairments in cognition | |
| Vuksan et al. | India | 31 | 33% had >40% reduction in PANSS | |

# Maintenance ECT in SCZ

Psychiatry Research 264 (2018) 131–142

Contents lists available at ScienceDirect

Psychiatry Research

journal homepage: www.elsevier.com/locate/psychres


Review article

## Maintenance ECT in schizophrenia: A systematic review

Heather Burrell Ward[a,b,*], Steven T. Szabo[c,d], Gopalkumar Rakesh[d]

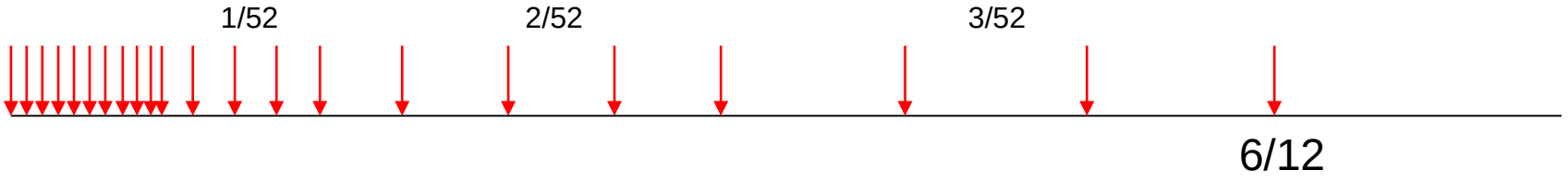
- High relapse rates: 40-60%, after acute courses
- 2 RTC and 17 retrospective chart reviews
- Most studies lasted 6 months
- Typically weekly for the first month, biweekly for two months, then monthly
- Reduced relapse rates during m-ECT, but increased after finishing m-ECT

# Cardiff protocol for ECT in SCZ

- Indications:
  - Clozapine non-responders
  - Inability/refusal to take clozapine
  - Emergencies (e.g. food refusal, stupor)

# Cardiff protocol for ECT in SCZ

- Bilateral ECT, twice a week, 100% above ST
- Assess weekly with BPRS and HAMD-24 (by ECT staff); full set of cognitive scales at baseline, end and 3 months follow-up
- Response defined as 30% reduction in BPRS psychosis section and 50% reduction in HAMD (provided it was >20 points at baseline)
- After response or 12 ECTs reached, discussion between patient, ECT dept and referring team regarding need for c-ECT for responders or stopping treatment for non-responders.




End of acute course

C-ECT: 4 at weekly, 4 at 2-weekly and 3 at monthly, but duration and frequency subject to reviews