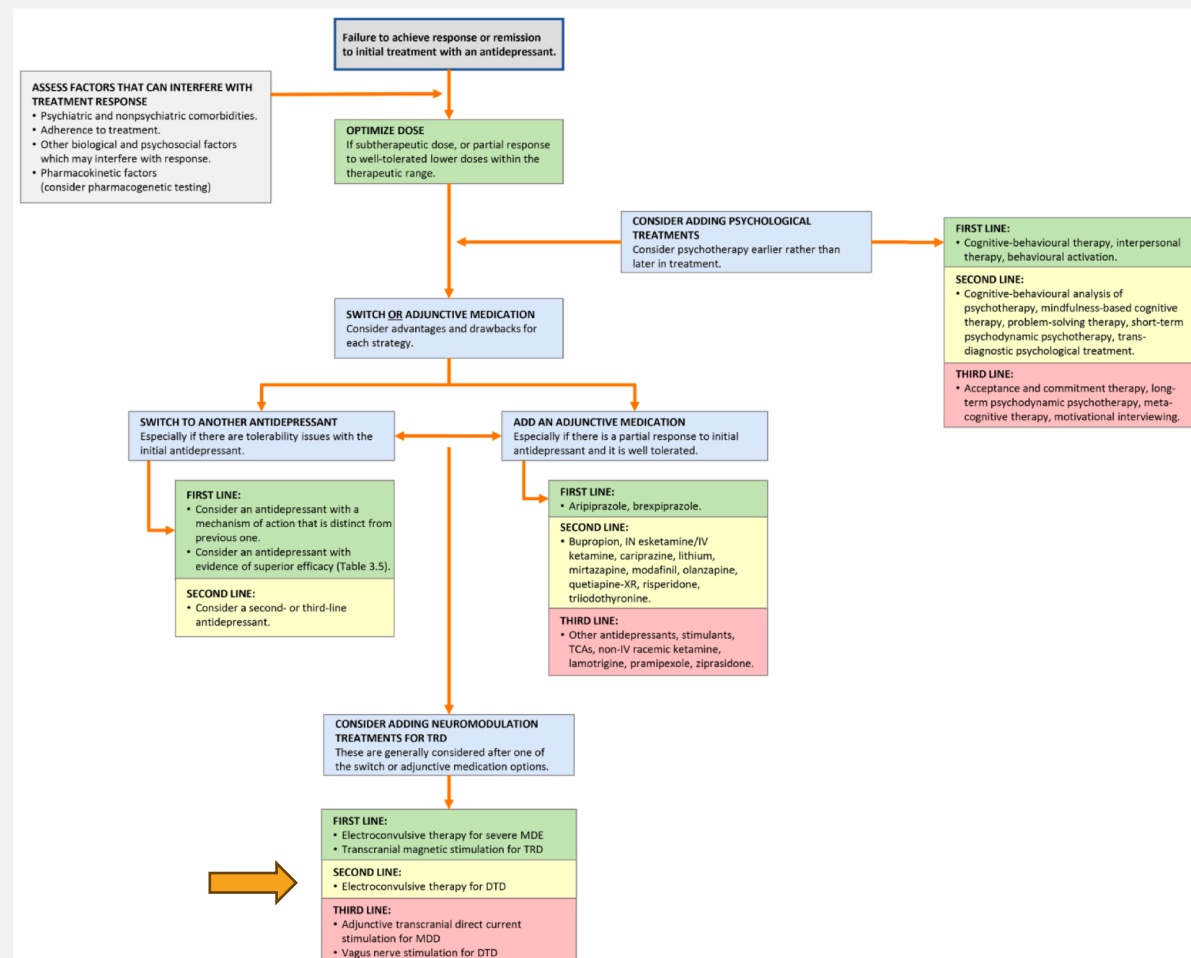


ECT: ÉPISODE DÉPRESSIF RÉSISTANT

Situations Complexes

Antoine YRONDI MD; PhD

PLACE DE L'ECT

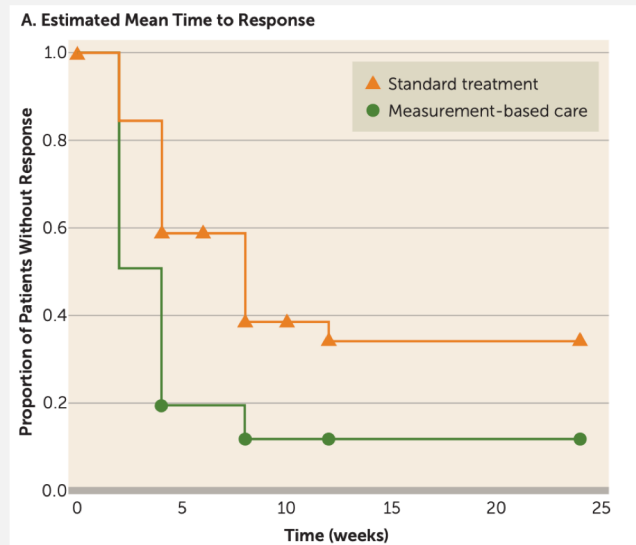


DÉFINITION

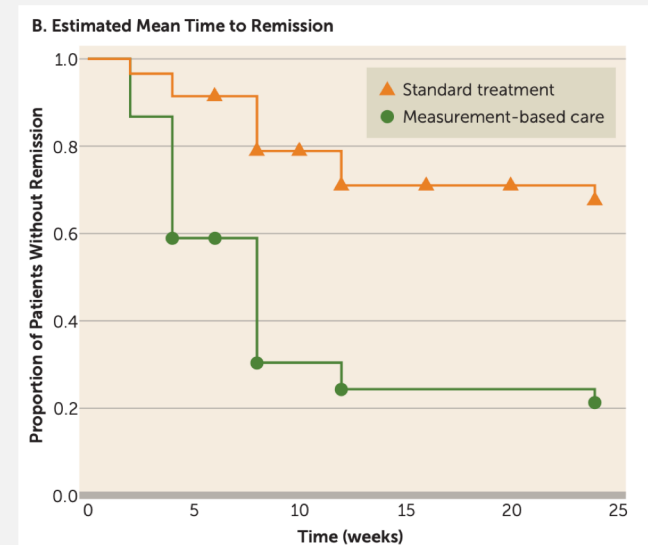
- **Réponse** : Amélioration d'au moins 50% à une échelle de dépression
- **Absence de réponse** : Amélioration de moins de 25% à une échelle de dépression
- **Réponse partielle** : : Amélioration d'au moins 25% et inférieure à 50% à une échelle de dépression
- **Dépression avec réponse partielle** : réponse partielle à un AD bien conduit (Au moins 4 semaine à posologie suffisante)
- **Dépression résistante** : Absence de réponse à au moins 2 traitements bien conduits (Au moins 4 semaine à posologie suffisante)

MESURE STANDARDISÉE

RÉPONSE



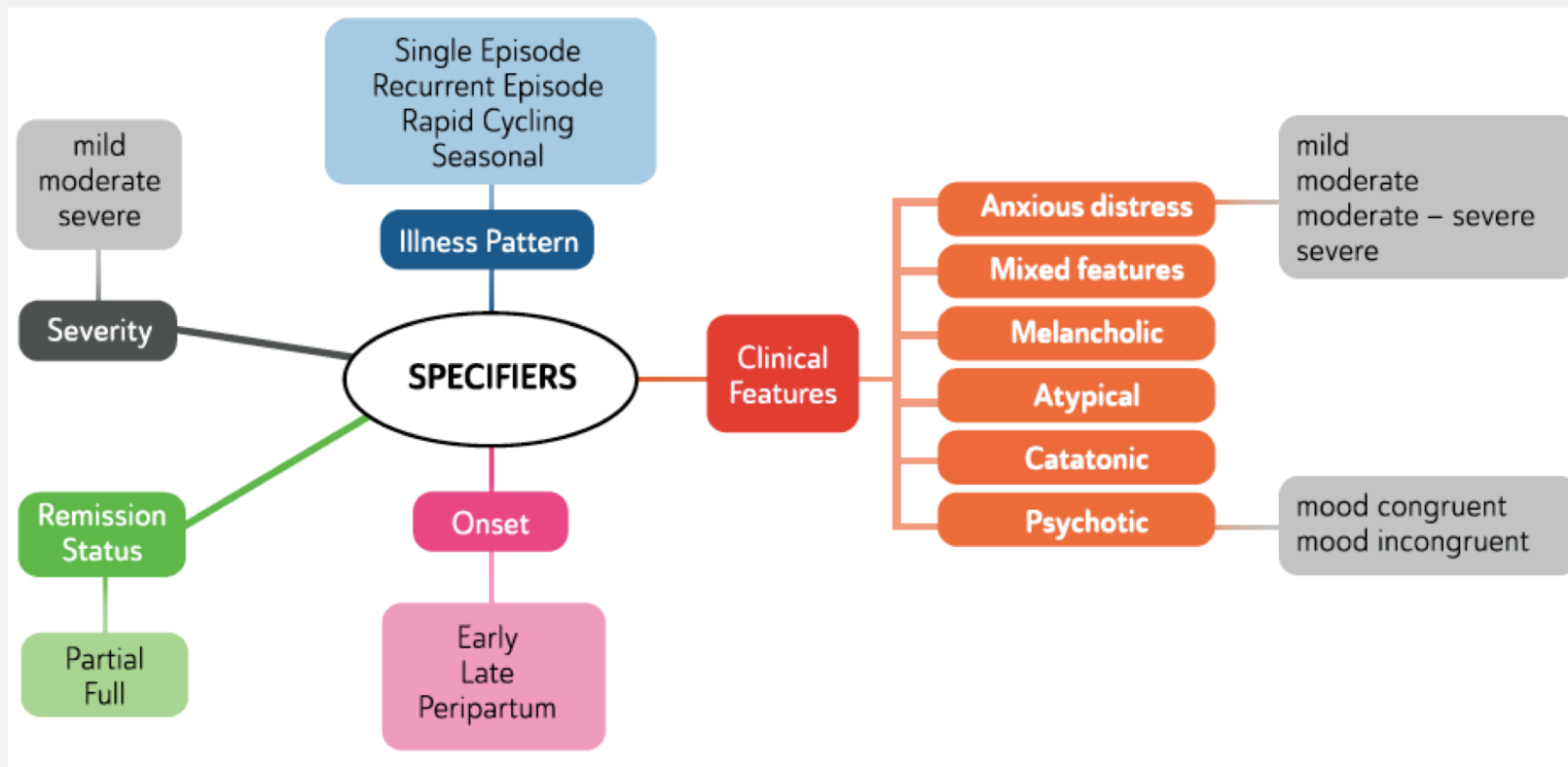
RÉMISSION



Measurement-Based Care Versus Standard Care for Major Depression: A Randomized Controlled Trial With Blind Raters

Tong Guo, M.D., Yu-Tao Xiang, M.D., Ph.D., Le Xiao, M.D., Chang-Qing Hu, M.D., Helen F.K. Chiu, F.R.C.Psych., Gabor S. Ungvari, M.D., Ph.D., Christoph U. Correll, M.D., Kelly Y.C. Lai, M.R.C.Psych., Lei Feng, M.D., Ph.D., Ying Geng, M.D., M.Phil., Yuan Feng, M.D., Gang Wang, M.D., Ph.D.

CARACTÉRISTIQUES



RÉSISTANCE

Table 1
Main clinical and biological risk factors for treatment resistant depression.

FACTOR	RISK	REFERENCES
Comorbid anxiety disorder	OR=2.6 [1.8–3.6], $p < 0.001$	Souery et al. (2007)
→ Current suicidal risk	OR=2.2 [1.6–3], $p < 0.001$	Souery et al. (2007)
→ Nonresponse to the first antidepressant received	OR=1.6 [1.1–2.5], $p=0.019$	Souery et al. (2007)
→ Melancholic features	OR=1.5 [1.1–2], $p=0.018$	Souery et al. (2007)
Bipolarity	OR=1.61 [1.13–2.30], $p=0.008$	Dudek et al. (2010)
Early onset of first depressive episode	OR=2.30 [1.06–5.0], $p=0.036$	Dudek et al. (2010)
→ High rate of depressive recurrences	OR=1.52 [1.04–2.22], $p=0.031$	Dudek et al. (2010)
→ Lack of full remission after a previous episode	OR=10.4 [6.84–15.9], $p=0.001$	Dudek et al. (2010)
Low reward dependence	$F=13.19$, $p < 0.001$	Takahashi et al. (2013a)
Low cooperativeness	$F=5.42$, $p=0.005$	Takahashi et al. (2013a)
High neuroticism	$F=11.10$, $p < 0.001$	Takahashi et al. (2013b)
Low extraversion	$F=26.42$, $p < 0.001$	Takahashi et al. (2013b)
Low openness	$F=5.93$, $p=0.004$	Takahashi et al. (2013b)
Low conscientiousness	$F=4.88$, $p=0.009$	Takahashi et al. (2013b)
Decreased GABA levels in occipital and anterior cingulate cortices	–	Price et al. (2009)
5-HT1A C1019G polymorphism GG genotype + A allele of BDNF G196A (Val66Met) polymorphism	OR=3.178 [1.315–7.68], $p=0.007$	Anttila et al. (2007)
NTRK2 gene polymorphisms (T-Thaplotype)	OR=1.43 [1.16–1.76], $p=0.0008$	Li et al. (2013)
Functional polymorphism of GRIN2B	OR=1.55 [1.18–2.05], $p=0.008$	Zhang et al. (2014)

RECOMMENDATIONS

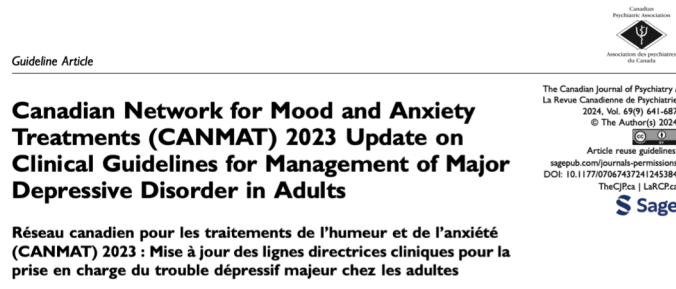


Table 8.1. Recommendations for Electroconvulsive Therapy (ECT) Protocols.

Line of treatment	ECT protocol	Level of evidence
First Line	Brief Pulse, bifrontal (at 1.5 times seizure threshold)	●
	Brief Pulse, right unilateral (at 6 times seizure threshold)	●
	Ultrabrief Pulse, right unilateral (at 6 times seizure threshold)	●
Second Line	Brief Pulse, bitemporal (at 1.5 times seizure threshold)	●
	Ultrabrief Pulse, bifrontal (at 1.5 times seizure threshold)	●

● Level 1; ● Level 2; ● Level 3; ● Level 4.

Note. By convention, treatments are listed within each line of treatment by level of evidence, then alphabetically.

Table 8.3. Summary Recommendations for Neuromodulation Treatments.

Line of treatment	Neuromodulation treatment	Level of evidence	
		Acute efficacy	Maintenance efficacy
First line	ECT for severe MDE.* rTMS for TRD.	●	●
Second line	ECT for DTD.	●	●
Third line	Adjunctive use of tDCS for mild-moderate MDE. VNS for DTD.	●	●
Investigational	DBS for DTD. MST for DTD.	●	Not known

● Level 1; ● Level 2; ● Level 3; ● Level 4.

Note. ECT = electroconvulsive therapy; MDE, major depressive episode; rTMS = repetitive transcranial magnetic stimulation; TRD, treatment-resistant depression; DTD, difficult-to-treat depression; tDCS = transcranial direct current stimulation; VNS = vagus nerve stimulation; DBS = deep brain stimulation; MST = magnetic seizure therapy.

*With severe psychotic or catatonic features, severe suicidal ideation, or deteriorating physical condition.

RECOMMANDATIONS

Dépression avec réponse partielle

Premier épisode		
Switch 	1 ^{ère} ligne	SSRI/SNRI NaSSA
	2 ^{ème} ligne	TCA SMS/SARI Agomelatine
Combinaison 	Voir box 1	

Épisodes multiples		
Switch 	1 ^{ère} ligne	SSRI/SNRI NaSSA
	2 ^{ème} ligne	TCA SMS/SARI agomelatine
Combinaison 	Voir box 1	
Add-on 	Voir box 2	

Box 1. Combinaison (AD + AD) + 	
1 ^{ère} ligne	SSRI/SNRI + NaSSA TCA + NaSSA
2 ^{ème} ligne	SSRI/SNRI + agomelatine SSRI + bupropion

Box 2. Ajout (AD + autre agent) + 	
1 ^{ère} ligne	Lithium Eskétamine Quétiapine (50-150 mg/d) Aripiprazole (2,5-10 mg/d) Lamotrigine Pramipexole ECT rTMS
2 ^{ème} ligne	Tri-iodothyronine Olanzapine (5-10 mg/d) Amisulpride (100 mg/d) Risperidone (1-2 mg/d) Kétamine Méthylphénidate tDCS

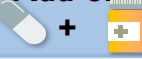
NaSSA: Noradrenergic and specific serotonergic antagonist (miansérine, mirtazapine); **SSRI**: Selective serotonin reuptake inhibitors;
SNRI: Serotonin-noradrenaline reuptake inhibitors; **TCA**: Tricyclic antidepressants (i.e. clomipramine, amitriptyline);
ECT: électroconvulsivothérapie; **rTMS**: repetitive transcranial magnetic stimulation; **tDCS**: stimulation transcrânienne à courant direct

Yrondi A, et al, French Society for Biological Psychiatry and Neuropsychopharmacology (AFPBN) guidelines for the management of patients with partially responsive depression and treatment-resistant depression: Update 2024, Encéphale

Yrondi et al. 2024. L'Encephale

RECOMMANDATIONS

Dépression résistante aux traitements

Premier épisode		
Switch 	1 ^{ère} ligne	SSRI/SNRI
	2 ^{ème} ligne	TCA MAOI Bupropion SMS/SARI Tianeptine
Combinaison 	Voir box 1	
Add-on 	Voir box 2	

Épisodes multiples		
Switch 	1 ^{ère} ligne	SSRI/SNRI MAOI Bupropion
	2 ^{ème} ligne	TCA SMS/SARI agomelatine
Combinaison 	Voir box 1	
Add-on 	Voir box 2	

Box 1. Combinaison (AD + AD) + 	
1 ^{ère} ligne	SSRI/SNRI + NaSSA TCA + NaSSA
2 ^{ème} ligne	SSRI/SNRI + agomelatine SSRI + bupropion

Box 2. Ajout (AD + autre agent) + 	
1 ^{ère} ligne	Lithium Eskétamine Quétiapine (50-150 mg/d) Aripiprazole (2,5-10 mg/d) Lamotrigine Pramipexole ECT rTMS
2 ^{ème} ligne	Tri-iodothyronine Olanzapine (5-10 mg/d) Amisulpride (100 mg/d) Risperidone (1-2 mg/d) Kétamine Méthylphénidate tDCS

NaSSA: Noradrenergic and specific serotonergic antagonist (mianserine, mirtazapine); **SSRI**: Selective serotonin reuptake inhibitors; **SNRI**: Serotonin-noradrenaline reuptake inhibitors; **TCA**: Tricyclic antidepressants (i.e. clomipramine, amitriptyline); **ECT**: électroconvulsivothérapie; **rTMS**: repetitive transcranial magnetic stimulation; **tDCS**: stimulation transcrânienne à courant direct

Yrondi A, et al, French Society for Biological Psychiatry and Neuropsychopharmacology (AFBPN) guidelines for the management of patients with partially responsive depression and treatment-resistant depression: Update 2024, Encéphale

Yrondi et al. 2024. L'Encephale

ECT

The NEW ENGLAND JOURNAL of MEDICINE

REVIEW ARTICLE

Allan H. Ropper, M.D., *Editor*

Electroconvulsive Therapy

Randall T. Espinoza, M.D., and Charles H. Kellner, M.D.

Table 1. Features of Initial and Maintenance Electroconvulsive Therapy (ECT).

Initial course

Consists of 6 to 12 treatments, on average; usually performed 2 or 3 times/wk for 2–4 wk

No set minimum or maximum number of treatments

Continued until patient has maximal sustained response or side effects limit further use

Performed in inpatient or outpatient setting, depending on illness severity or logistics

Continuation or maintenance treatment

Follows completion of an index course

Performed in outpatient setting

Gradually tapered, with increasing intervals between treatments

Goal is to deliver the fewest treatments needed to sustain a response

May continue months to years (no set maximum number of treatments)

ECT EN 1^{ÈRE} LIGNE

- Sévérité de l'épisode
- Prise orale impossible
- Syndrome catatonique
- Caractéristique psychotique
- Risque suicidaire
- ATCD de réponse
- Préférence du patient

ECT EN 1^ÈRE LIGNE

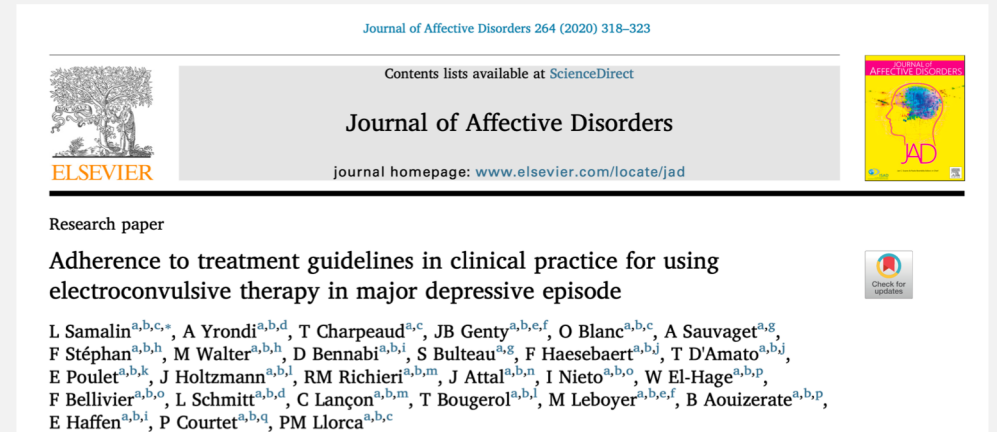
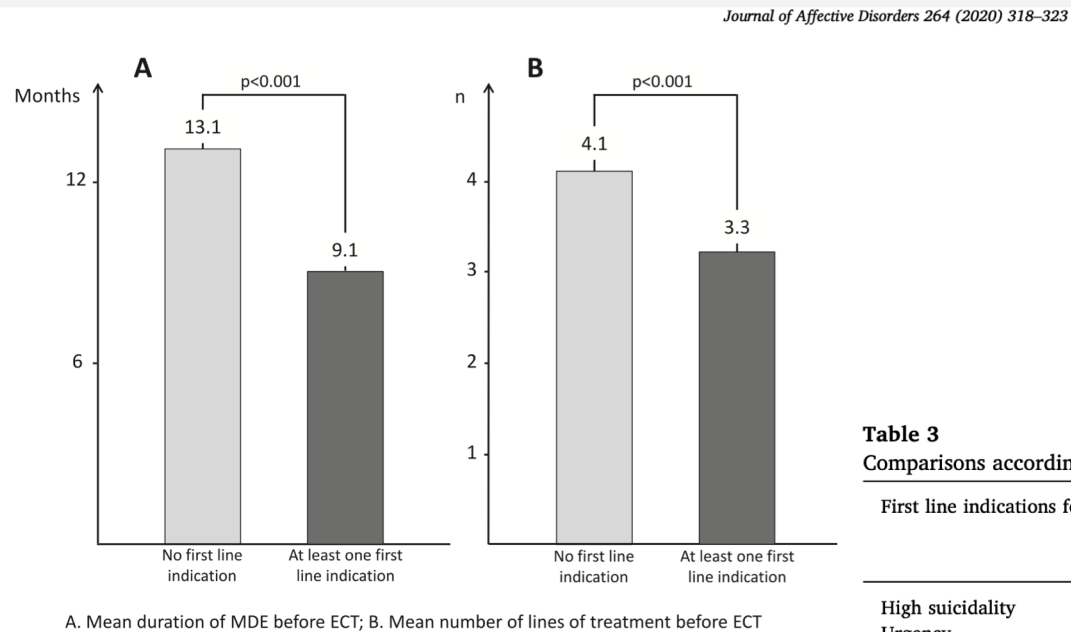


Table 3
Comparisons according the presence or absence of first line indications for using ECT in guidelines.

First line indications for using ECT	n (%)	Mean duration of episode before ECT (months)			Mean number of lines of treatment before ECT (n)		
		Absent	Present	p-value	Absent	Present	p-value
High suicidality	125 (16.78)	10.17 (13.12)	9.78 (11.48)	0.761	3.41 (2.30)	3.57 (2.11)	0.483
Urgency	210 (28.19)	10.78 (12.95)	8.37 (12.44)	0.021	3.73 (2.34)	2.76 (1.90)	<0.001
Previous ECT response	174 (23.36)	11.29 (13.56)	6.20 (9.17)	<0.001	3.66 (2.27)	2.78 (2.11)	0.001
Catatonic features	52 (6.98)	10.36 (13.10)	6.68 (8.68)	0.006	3.47 (2.29)	2.96 (1.78)	0.072
Psychotic features	310 (41.61)	11.17 (14.24)	8.61 (10.45)	0.005	3.58 (2.30)	3.24 (2.20)	0.063
Patient preference	61 (8.19)	9.74 (11.95)	14.22 (20.12)	0.091	3.40 (2.26)	3.77 (2.24)	0.240

Values are given as mean (SD).
SD: standard deviation.

SYNDROME CATATONIQUE

nature reviews disease primers

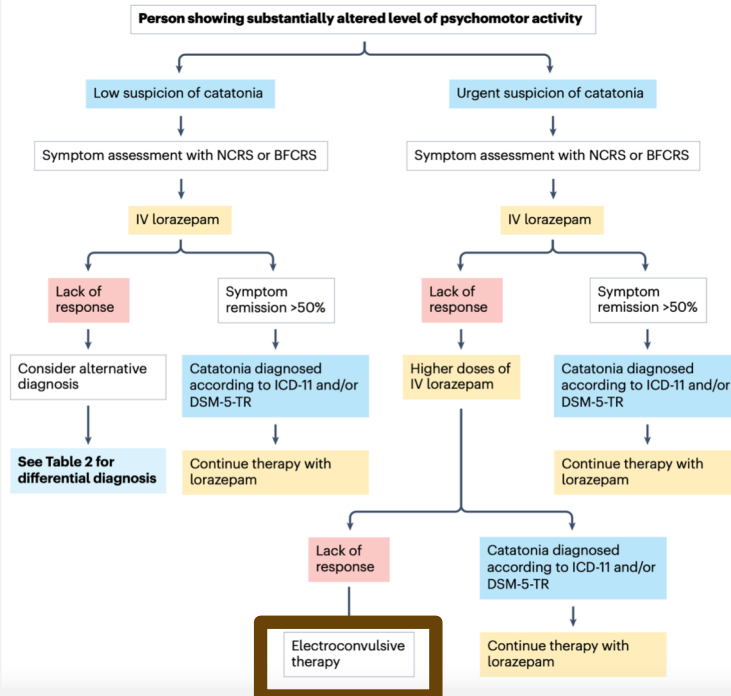
<https://doi.org/10.1038/s41572-024-00534-w>

Primer

Check for updates

Catatonia

Dusan Hirjak^{1,2}, Jonathan P. Rogers³, Robert Christian Wolf⁴, Katharina Maria Kubera⁴, Stefan Fritze¹, Jo Ellen Wilson^{5,6,7}, Fabio Sambataro⁸, Gregory Fricchione⁹, Andreas Meyer-Lindenberg¹⁰, Gabor S. Ungvari^{10,11} & Georg Northoff¹²



The NEW ENGLAND JOURNAL of MEDICINE

REVIEW ARTICLE

Allan H. Ropper, M.D., *Editor*

Catatonia

Stephan Heckers, M.D., and Sebastian Walther, M.D.

- ECT ou Lorazepam en 1^{ère} ligne

CARACTÉRISTIQUE PSYCHOTIQUE

BJPsych

The British Journal of Psychiatry (2018)
212, 71–80. doi: 10.1192/bjp.2017.28

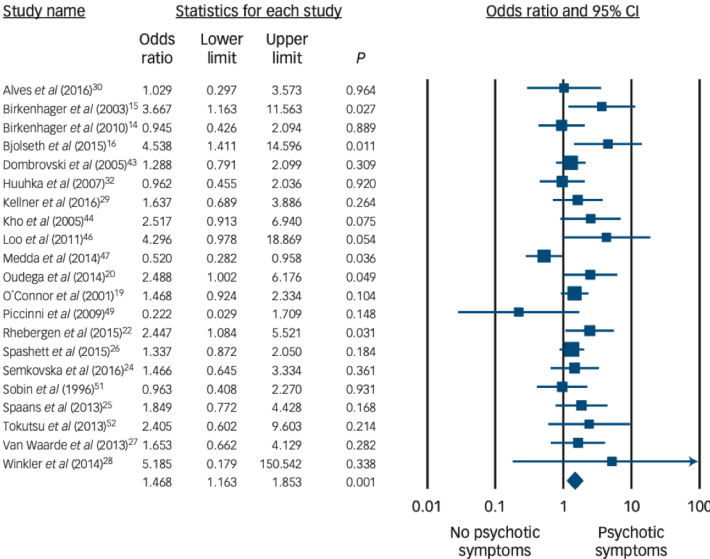
Review article

Prediction of electroconvulsive therapy response and remission in major depression: meta-analysis*

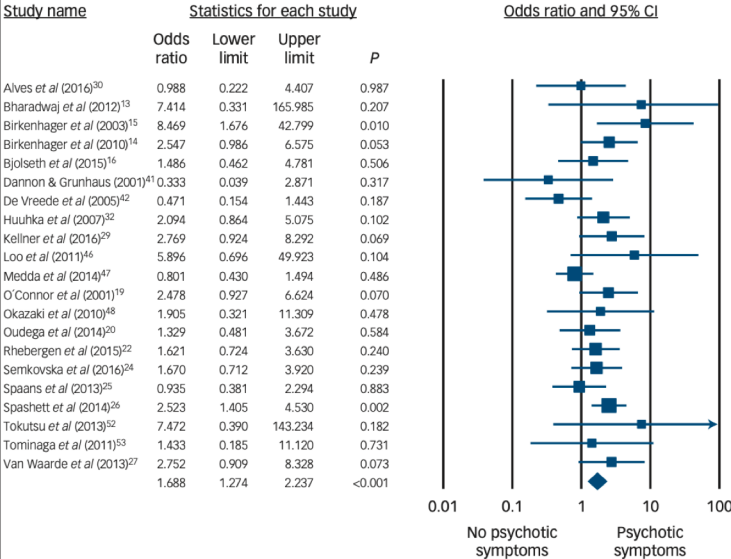
Linda van Diermen, Seline van den Ameele, Astrid M. Kamperman, Bernard C.G. Sabbe, Tom Vermeulen, Didier Schrijvers and Tom K. Birkenhäger

Psychotic symptoms

(a)



(b)



SUICIDE

Research Article

Long-term treatment and suicidal behavior in severe depression: ECT and antidepressant pharmacotherapy may have different effects on the occurrence and seriousness of suicide attempts

Louise Brådvik M.D., Mats Berglund M.D. 

Survenue de TS:  après ECT

ECT PÉDIATRIQUES

- Possibles
- Mêmes indications
- Avis collégial :
 - Deux pédopsychiatres différents
 - Un psychiatre formé aux ECT

ECT PÉDIATRIQUES

Journal of ECT • Volume 31, Number 4, December 2015

ECT in Sweden 2013

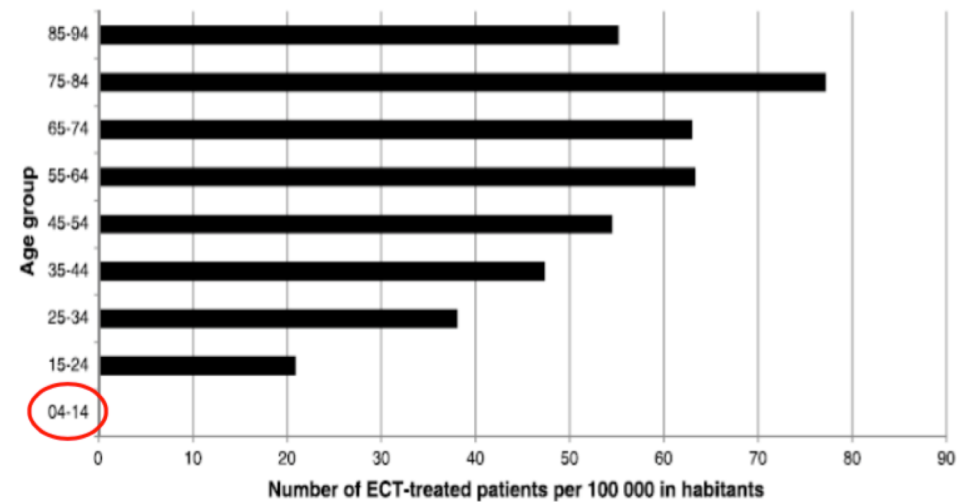


FIGURE 2. The number of ECT-treated patients per 100,000 inhabitants in different age groups in Sweden.

ECT PÉDIATRIQUES

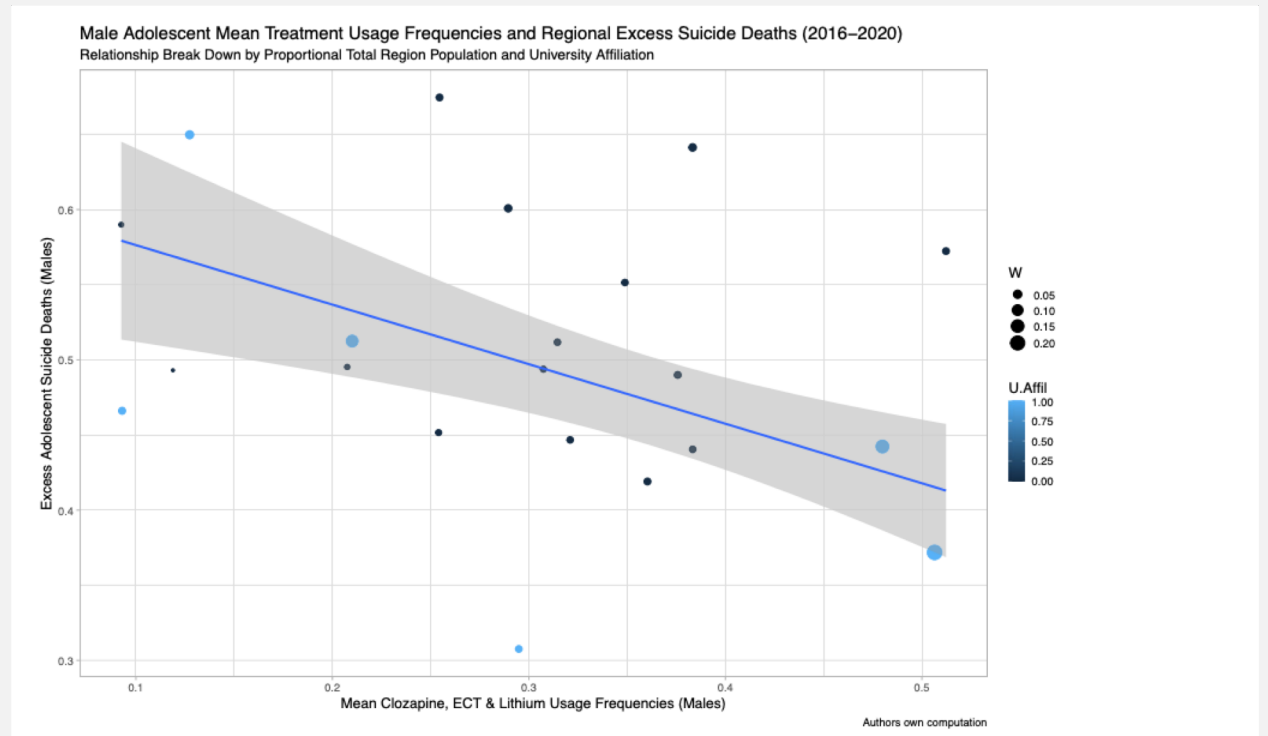
nature communications



Article

<https://doi.org/10.1038/s41467-023-36973-4>

Regional clozapine, ECT and lithium usage inversely associated with excess suicide rates in male adolescents



ECT CHEZ LE SUJET ÂGÉ

- Sujet âgé = polypathologie
- Tolérance diminuée aux traitements
- Métabolisme ralenti
- « Fragilité »

→ nombreuses contre-indications médicamenteuses

ECT CHEZ LE SUJET ÂGÉ

Journal of ECT • Volume 31, Number 4, December 2015

ECT in Sweden 2013

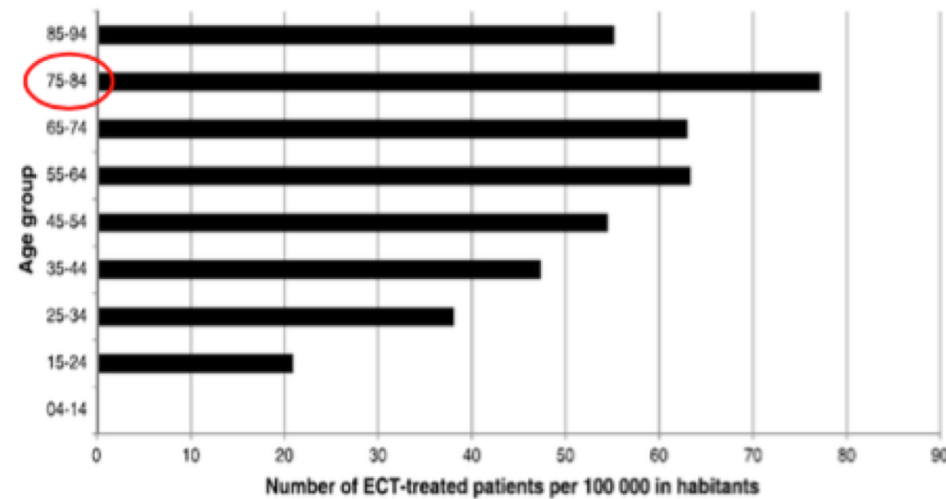


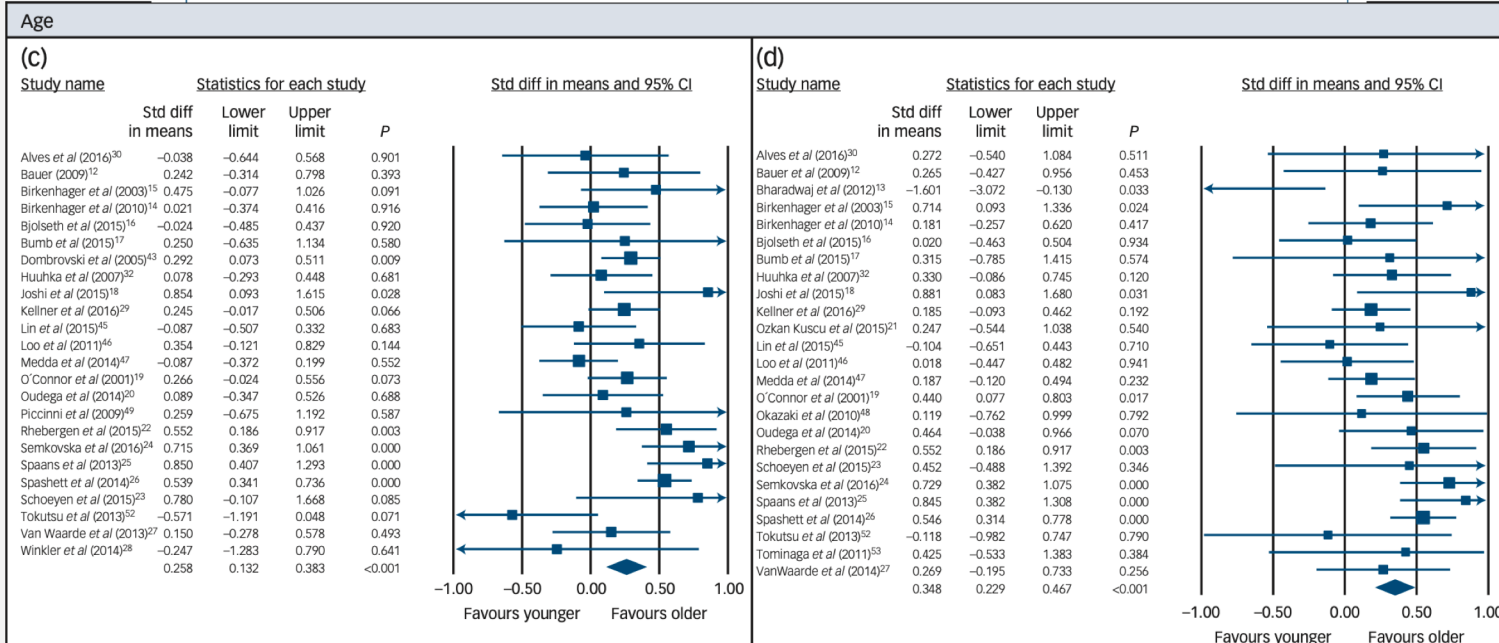
FIGURE 2. The number of ECT-treated patients per 100,000 inhabitants in different age groups in Sweden.

ECT CHEZ LE SUJET ÂGÉ

Review article

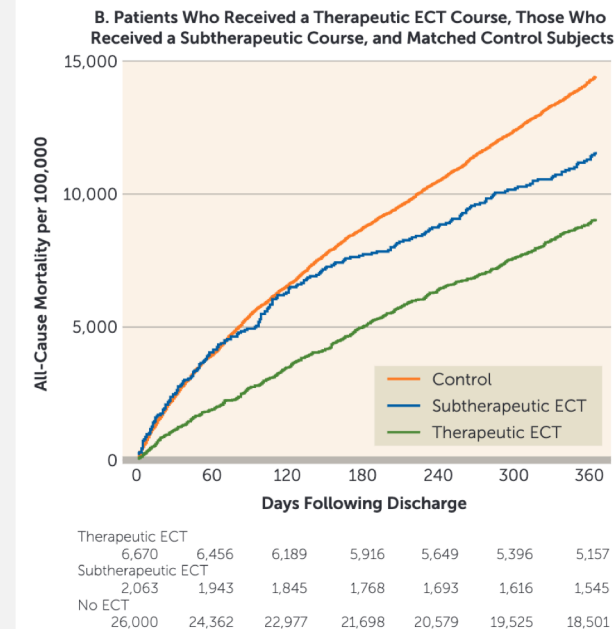
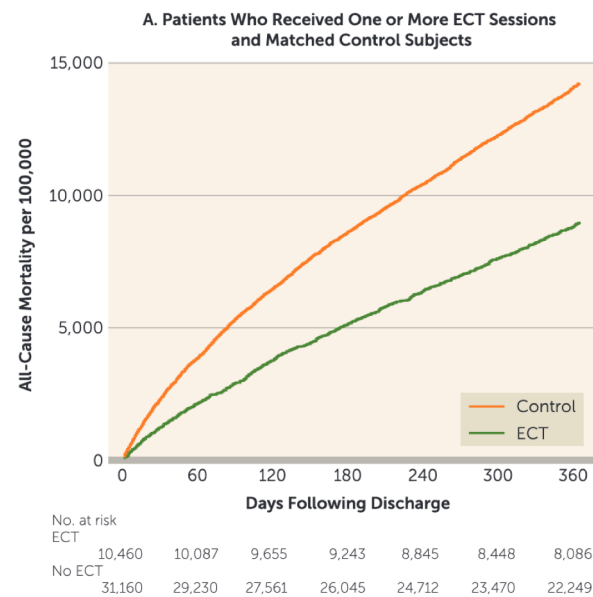
Prediction of electroconvulsive therapy response and remission in major depression: meta-analysis*

Linda van Diermen, Seline van den Amelee, Astrid M. Kamperman, Bernard C.G. Sabbe, Tom Vermeulen, Didier Schrijvers and Tom K. Birkenhäger



Association of ECT With Risks of All-Cause Mortality and Suicide in Older Medicare Patients

Taeho Greg Rhee, Ph.D., Kyaw Sint, Ph.D., Mark Olfson, M.D., M.P.H., Tobias Gerhard, Ph.D., Susan H. Busch, Ph.D., Samuel T. Wilkinson, M.D.



ECT CHEZ LE SUJET ÂGÉ

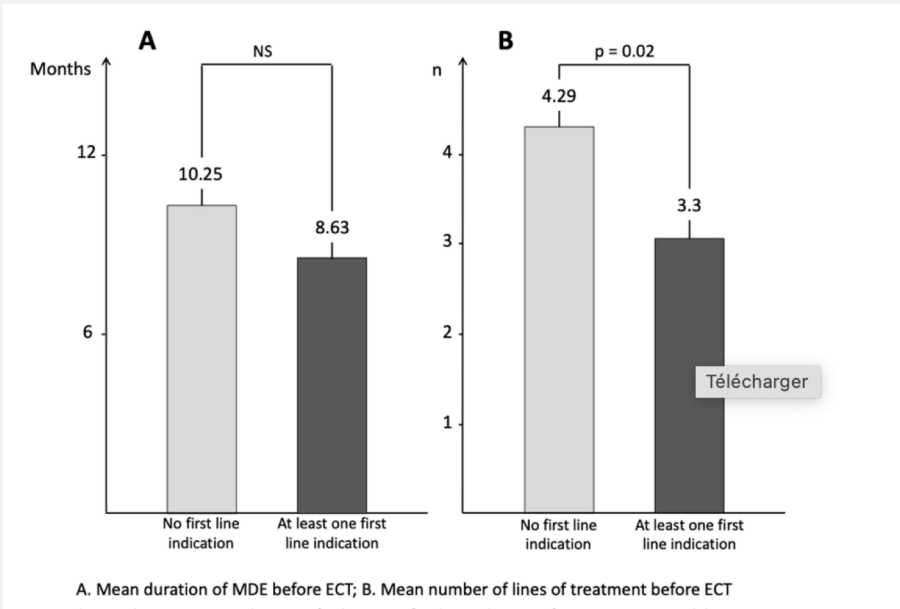


Table 3 Comparisons according to the presence or absence of first line indications for using ECT in guidelines

First line indications for using ECT	Presence of first line indications n (%)	Mean duration of episode before ECT (months)		p-value
		Absent	Present	
High suicidality	34/335 (10.1)	8.84 (10.93)	9.11 (12.12)	NS
Urgency	142/335 (42.4)	9.74 (11.48)	7.70 (10.33)	NS
Previous ECT response	104/335 (31.0)	10.40 (12.02)	5.49 (7.46)	< 0.001
Catatonic features	21/335 (6.3)	9.00 (11.22)	7.00 (7.85)	NS
Psychotic features	182/335 (54.3)	8.77 (11.12)	8.96 (10.99)	NS
Patient preference	14/335 (4.2)	8.88 (11.05)	8.73 (11.19)	NS

Values are given as mean (SD) or n (%)
SD Standard deviation

ECT CHEZ LE SUJET ÂGÉ

- Efficacité documentée
- Efficacité sur les troubles moteurs résiduels du Parkinson
- Importance du bilan pré-anesthésique (FDRCV, ostéoporose)

ECT CHEZ LE SUJET ÂGÉ

Medical Hypotheses 73 (2009) 468–469



Contents lists available at [ScienceDirect](#)

Medical Hypotheses

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



Editorial

ECT for Parkinson's disease

Psychiatric, Motor, and Autonomic Effects of Bifrontal ECT in Depressed Parkinson's Disease Patients

Isaac Rodin, B.Sc., Je Hun Sung, M.D., Silke Appel-Cresswell, M.D., F.R.C.P.C., Harpreet Chauhan, M.D., F.R.C.P.C., Kevin Smith, M.D., F.R.C.P.C., Fidel Vila-Rodriguez, M.D., Ph.D., Nicholas J. Ainsworth, M.D., F.R.C.P.C.

ECT CHEZ LE SUJET ÂGÉ

Medical Hypotheses 75 (2010) 139–140



Contents lists available at [ScienceDirect](#)

Medical Hypotheses

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



Editorial

Electroconvulsive therapy (ECT) for dementia with Lewy bodies

ECT CHEZ LE SUJET ÂGÉ

Journal of Affective Disorders 200 (2016) 15–24



ELSEVIER

Contents lists available at [ScienceDirect](#)

Journal of Affective Disorders

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



Research paper

A long-term longitudinal follow-up of depressed patients treated with ECT with special focus on development of dementia



Åke Berggren^{a,b,c,*}, Lars Gustafson^d, Peter Höglund^e, Aki Johanson^{a,c}

Journal of Psychiatric Research 179 (2024) 199–208



ELSEVIER

Contents lists available at [ScienceDirect](#)

Journal of Psychiatric Research

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



Electroconvulsive therapy and cognitive performance from the Global ECT MRI Research Collaboration



Maximilian Kiebs^{a,b,**}, Danielle C. Farrar^c, Antoine Yron-di^{d,e}, Narcis Cardoner^{f,g,h}, Noora Tuovinenⁱ, Ronny Redlich^{j,k,l}, Udo Dannlowski^k, Carles Soriano-Mas^{m,h,n}, Annemiek Dols^{o,p}, Akihiro Takamiya^{q,r}, Indira Tendolkar^s, Katherine L. Narr^t, Randall Espinoza^t, Maarten Laroy^q, Philip van Eijndhoven^s, Esmée Verwijk^{u,v,w}

ÉPILEPSIE



Available online at www.sciencedirect.com



Epilepsy & Behavior 9 (2006) 355–359

Epilepsy
&
Behavior

www.elsevier.com/locate/yebeh

Electroconvulsive therapy in patients with epilepsy

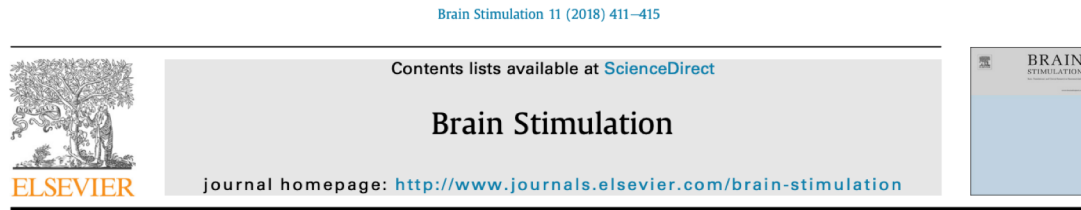
Mary E. Lunde, Elliot K. Lee, Keith G. Rasmussen *

Mayo Clinic Department of Psychiatry, Rochester, MN 55905, USA

Received 24 May 2006; revised 12 June 2006; accepted 16 June 2006

Available online 28 July 2006

ÉPILEPSIE



Electroconvulsive therapy and subsequent epilepsy in patients with affective disorders: A register-based Danish cohort study

Fie Krossdal Bøg^{a, b}, Martin Balslev Jørgensen^c, Zorana Jovanovic Andersen^b, Merete Osler^{a, b, *}

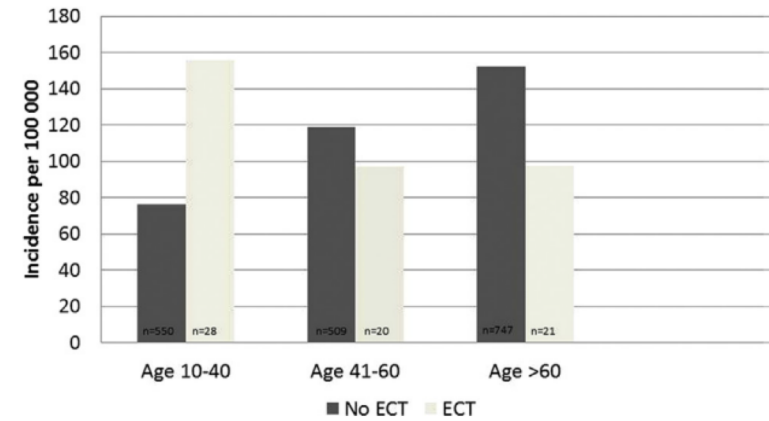


Fig. 1. Incidence of epilepsy (rates per 100,000) in relation to electroconvulsive therapy and age in 169,457 patients with affective disorders (n = number of epilepsy outcomes).

ECT CHEZ LA FEMME ENCEINTE

- Problème des **psychotropes** (tératogénicité...)
- **Forte prévalence** des troubles de l'humeur (9%)
- Conséquence sur le fœtus :
 - Petite **taille** et petit **poids**
 - **Naissance prématurée**
 - **Altération du lien** mère-enfant

ECT CHEZ LA FEMME ENCEINTE

- Pas de recommandations récentes (HAS 1998, APA 2001)
- **Mêmes indications** que chez l'adulte
- Nécessite un **avis obstétrical**
- Risques maternels → **Contractions utérines, accouchement**
- Risque fœtal → **Bradycardie**

ECT CHEZ LA FEMME ENCEINTE

ECT in Pregnancy: A Review of the Literature From 1941 to 2007

ERIC L. ANDERSON, MD, AND IRVING M. RETI, MBBS

TABLE 2. ECT Efficacy for Reported Conditions Available for 68 Cases

	Diagnosis				
	BPAD	MDD/Depression ^a	Schizophrenia ^b	Schizoaffective	Psychosis (Undefined)
Total cases	7	37	18	3	3
Remission	5	26	6	2	2
Partial remission	1	5	5	1	0
No remission	0	3	3	0	1
Unknown	1	3	4	0	0
% At least partial response	85.7	83.8	61.1	100.0	66.7

ECT = electroconvulsive therapy; BPAP = Bi-polar affective disorder; MDD = major depressive disorder.

^a With or without psychoses.

ECT CHEZ LA FEMME ENCEINTE

Hindawi
Case Reports in Psychiatry
Volume 2023, Article ID 9601642, 5 pages
<https://doi.org/10.1155/2023/9601642>

Case Report

Catatonia, Pregnancy, and Electroconvulsive Therapy (ECT)

Khushbu Gandhi , KieuHanh Nguyen, Maggie Driscoll , Zahid Islam, and Siddhartha Maru

ECT ET SOINS SOUS CONTRAINTES : TROIS POSSIBILITÉS

- Patient acceptant l'ECT : pas de soucis
- Patient refusant l'ECT :
 - risque vital court terme → faire traitement puis rediscuter
 - pas d'engagement du vital à courte échéance → ???

ECT ET PATIENTS SOUS MESURE DE PROTECTION

- ECT = acte mettant en jeu l'intégrité physique
- Avis décisionnaire du juge des tutelles

CONCLUSION

Dans le TRD:

- S  cure
- Efficace
- Mais sous utilis  