



Association of personality features with lithium prophylactic response



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Excellent lithium responders

- Patients in whom monotherapy with lithium can completely prevent further recurrences of manic and depressive episodes (Grof, 1999)
- Characterized by episodic clinical course, complete remission, bipolar family history, and low psychiatric comorbidity (Grof, 2010)
- Percentage of excellent lithium responders: about 1/3 of lithium treated bipolar patients (Rybakowski et al., 2004)



A specific personality profile for the best lithium response was not estimated so far

The Alda scale for assessing lithium prophylactic efficacy

- Introduced by Canadian researchers
Grof P, Duffy A, Cavazzoni P, Garnham J, MacDougall M, O'Donovan C. *Alda M*
J Clin Psychiatry, 2002; 63: 942-947
- Score 0-10 (10: most excellent lithium response)
- Criterion A: clinical response during lithium treatment (0-10)
 - Criterion B (0-2)
 - B1: Number of episodes off the treatment
 - B2: Frequency of episodes off the treatment
 - B3: Duration of the treatment
 - B4: Compliance during period(s) of stability
 - B5: Use of additional medication during the period of stability
- Total Scale Score: Subtract B from A

The aim of the study

To correlate the scores of the Alda scale with two psychometric scales:

- Temperament Scale of Memphis, Pisa, Paris and San Diego – Autoquestionnaire (TEMPS-A)
- Oxford-Liverpool Inventory of Feelings and Experiences (LIFE-O)

in 70 long-term lithium-treated patients

TEMPS-A

- Temperament Scale of Memphis, Pisa, Paris and San Diego – Autoquestionnaire
- Introduced by Akiskal et al. (2005)
 - Measuring five temperaments
 - Depressive
 - Cyclothymic
 - Hyperthymic
 - Irritable
 - Anxious
- Polish validation of the scale on 521 college students (Borkowska et al., *J Affect Disord* 2010; 123: 36-41)

O-LIFE

- Oxford-Liverpool Inventory of Feelings and Experiences, measuring dimensions of schizotypy (Mason et al., 2005)
 - Four dimensions:
 - Unusual experiences
 - Cognitive disorganisation
 - Introverted anhedonia
 - Impulsive nonconformity
- Higher indices on O-LIFE in bipolar patients than in healthy control subjects, and association of some schizoid features measured by O-LIFE with creativity (Rybakowski & Klonowska, 2011)

Patients studied

- Seventy lithium-treated patients with bipolar illness
 - 21 male, 49 female
- Aged 31-82 (59±12) years
- Duration of lithium treatment 5-37 (14±8) years

TEMPS-A and lithium response

Correlations between temperaments and quality of lithium prophylactic response assessed by Alda Scale in 70 bipolar patients

Depressive	- 0.233*
Cyclothymic	-0.256**
Hyperthymic	0.306***
Irritable	0.020
Anxious	-0.273**

*** p<0.01
** p<0.05
* p=0.05

TEMPS-A and lithium response

- The most significant positive correlation was obtained with hyperthymic temperament
- Significant negative correlations were obtained with anxious and cyclothymic temperaments and borderline significance with depressive temperament.
- No correlation was found with irritable temperament
- The mean scores for the five temperaments of TEMPS-A were not significantly different in male and female patients
 - This is in contrast to recent meta-analysis of six studies performed on healthy populations (Vasquez et al., 2012)
 - M>F hyperthymic temperament
 - F>M cyclothymic, depressive and anxious temperaments
 - Similar phenomenon found in Polish study (Borkowska et al., 2010)

Hyperthymic temperament and lithium response

- Primacy of antimanic action of lithium (Cade, 1949)
 - Better efficacy of lithium in euphoric vs dysphoric mania (Perugi et al., 2001; Vieta et al., 2005)
- Met allele of Val66Met BDNF polymorphism – Associated with hyperthymic temperament (Savitz et al., 2008)
 - Associated with lithium response (Rybakowski et al., 2005; Dmitrzak-Weglarczyk et al., 2008)

Cyclothymic, depressive and anxious temperaments and lithium response

- Negative correlation of lithium response with cyclothymic temperament may correspond to a relatively lesser efficacy of lithium in patients with rapid cycling and indicate that hyperthymic and cyclothymic temperaments should not be regarded jointly, as it was the case in many studies
- Negative correlation of lithium response with anxious temperament may correspond to a relatively lesser efficacy of lithium in patients with comorbid anxiety disorder

O-LIFE and lithium response

Correlations between schizoid traits and quality of lithium prophylactic response assessed by Alda Scale in 70 bipolar patients

Unusual experiences	-0.121
Cognitive disorganisation	-0.236*
Introverted anhedonia	-0.166
Impulsive nonconformity	-0.032

* p<0.05

O-LIFE and lithium response

- A significant negative correlation (p<0.05) with the results of Alda scale was obtained with cognitive disorganisation
 - No significant correlation (numerically all negative) was found with unusual experiences, introverted anhedonia and impulsive nonconformity

Cognitive disorganisation

- Cognitive disorganization of schizotypal dimension is most closely connected with psychoticism and is common to relatives of both schizophrenia and psychotic bipolar disorder (Schurhoff et al., 2005)
- No evidence for antipsychotic properties of lithium

Conclusions

Temperamental features of hypomania (hyperthymic temperament) and lack of cognitive disorganization predict the best results of lithium prophylaxis

References

- Akiskal HS et al. *J Affect Disord* 2005; 85: 3-16.
- Borkowska A et al. *J Affect Disord* 2010; 123: 36-41.
- Cade J. *Med J Aust* 1949; 2: 349-352.
- Grof P. in: *Lithium: 50 Years of Psychopharmacology*, pp.36-51
- Grof P et al.. *J Clin Psychiatry* 2002; 63: 942-947.
- Grof P. *Neuropsychobiology* 2010; 62: 27-35.
- Mason O et al.. *Schizophr Res* 2005; 78: 293-296.
- Perugi G et al. *Psychiatry Res* 2001; 101: 249-258.
- Rybakowski JK et al. *Bipolar Disord* 2001; 3: 63-67.
- Rybakowski JK & Klonowska P. *Psychopathology* 2011; 44: 296-302.
- Savitz J et al. *Genes Brain Behav* 2008; 7: 869-876.
- Schurhoff F et al. *Schizophr Res* 2005; 80: 235-242.
- Vasquez GH et al.. *J Affect Disord* 2012; 139: 18-22.
- Vieta E. *Exp Rev Neurother* 2005; 5: 63-68