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ORIGINAL PAPER

Alessandro Rossi · Enrico Daneluzzo · Luca Arduini · Monia Di Domenico · Paolo Stratta · Concetta Petruzzi

Cognitive symptoms of mania in pure and mixed episodes evaluated with the Positive and Negative Syndrome Scale

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Abstract To investigate the clinical specificity of mixed affective patients, we compared the clinical characteristics of pure manic patients with those of mixed manic patients. The clinical symptoms of 146 bipolar inpatients hospitalized for a manic episode were assessed by means of the Positive and Negative Syndrome Scale. Mixed patients showed more positive and cognitive symptoms and among these the lack of judgement and insight was prominent. Further studies are needed to clarify the specificity of lack of insight of the mixed bipolar patients.

Key words Bipolar disorder · Cognition · Insight

Introduction

Even though the two phases of bipolar disorder in their classical expression consist of retarded depression and euphoric mania, manic and depressed states are often not mutually exclusive. Their combination in mixed states has been repeatedly described since Kraepelin [19].

However, a clear definition and boundaries for mixed states is still lacking [21] so that this matter continues to be relevant not only within a diagnostic debate but also for clinical usefulness [8].

Cassidy et al. [4] in a population of 237 patients with bipolar disorder found five independent factors with a bimodal distribution of the dysphoria factor. Dilsaver et al. [9] in 105 acutely manic patients found four factors corresponding to manic activation, depressed state, sleep disturbance and irritability/paranoia. These suggest the possibility that mixed bipolar disorder is a distinct state.

Recent studies showed that lack of insight [11, 26, 23] and cognitive abnormalities [2] are relevant, and perhaps related, features of the bipolar disorder [29]. We hypothesize that the study of these aspects could add further cues about the differences between mixed and pure mania.

We investigated the pattern of symptoms in a group of 146 bipolar inpatients hospitalized for manic episodes comparing Positive and Negative Syndrome Scale (PANSS) scores of pure and mixed patients with particular attention to cognitive symptoms and lack of insight. This rating scale was used because PANSS cognitive component has been reported to be a valid measure of cognitive dysfunction in schizophrenia and mania [3, 27].

Method

The subjects were 146 patients consecutively admitted for the treatment of manic episodes at Villa Serena Medical Center (VSMC), a psychiatry tertiary referral center. With more than 150 acute patients, VSMC is among the largest psychiatric departments in Italy.

Patients were diagnosed as having bipolar disorder (mania 124 or mixed 22) according to DSM III R [1] criteria. The patients included 50 men and 96 women. The mean (± SD) age of the patients was 46.34 ± 15.12 years and educational level was 11.48 years (SD 3.37). The age at onset of symptoms was 24.66 years (SD 8.2). They were taking classical neuroleptics (all subjects), lithium (n=45), carbamazepine (n=37) and valproic acid (n=82). The mean chlorpromazine-equivalent dose was 650.12 mg (SD 105.80 mg) at the time of evaluation.

Measures, rating procedure and reliability

Symptom severity was assessed with the use of the 30 items Positive and Negative Syndrome Scale (PANSS) [17].

The PANSS scales and cluster scores were obtained as described by Kay [17]. The PANSS cognitive component was calculated summing the following items: difficulty in abstract thinking, stereotyped thinking, cognitive disorga-

Prof. A. Rossi (✉) · E. Daneluzzo · M. Di Domenico · C. Petruzzi
Unità Operativa di Psicologia Clinica
c/o "Casa di Cura Villa Serena" Viale L. Petruzzi, 19
65015 Città S. Angelo (PE) – Italy
Tel.: +39–085–9590201
Fax: +39–085–9590400
e-mail: a.rossi@villaserena.it

A. Rossi · L. Arduini · P. Stratta
Institute of Experimental Medicine
University of L'Aquila

nization, lack of judgement and insight, poor attention, tension, mannerism and posturing, according to Bell et al. [3].

Because the PANSS has a very clear item (G12) that evaluates "Lack of judgement and insight" [17, p 243] this item was analyzed separately.

Members of the research team performed all ratings, after informed consent to participate was obtained, in accordance with the local institutional review board.

All patients were interviewed within 3 days of admission to the hospital. All raters were familiar with the assessment and management of patients with mania. The interviews were made independently by two of us (ED and MDD). The interrater reliability was evaluated on a sample of 30 patients and was high (Pearson r =.92).

The significance of the between-groups differences was assessed by the two-tailed unpaired Student's t-test. The Pearson r was used for correlation analysis.

Results

The means and standard deviations of the demographic features and PANSS scores are presented in Table 1. Mixed patients showed more positive symptoms, and more cognitive abnormalities. Interestingly when the item "Lack of judgement and insight" was removed from the cognitive cluster score, the difference was no longer statistically significant. Even after a Bonferroni correction of p values (0.05/12; p< .004), 'cognitive' and 'insight' scores, but not positive symptom score, were statistically different. PANSS scores did not statistically differ between male and female patients.

The cognitive cluster score did correlate highly with the PANSS total score in both patient groups (mixed patients r=.67, p< .001; pure manic r=.70, p< .001). When the item "Lack of judgement and insight" was removed from the cognitive cluster score, r values did not substantially change (r.68 and.65, respectively). No statistically significant correlations between current antipsychotic medication equivalents, age at onset, duration of illness and cognitive variables were observed. No statistically significant between group differences for demographic features were seen.

Table 1 Demographic and clinical Variables in bipolar patients with mixed versus pure mania [mean (SD)]

Variable	Pure (n=124)	Mixed (n=22)
Sex (m/f)	44/84	6/12
Current age (Yrs)	46.34 (14.25)	45.52 (15.12)
Length of admission (days)	35.27 (18.39)	32.18 (18.41)
PANSS scales		
– Total	68.27 (16.05)	72.77 (16.00)
– Positive	13.46 (5.40)	17.50 (4.64)*
– Negative	16.99 (5.90)	16.54 (5.21)
– General Psychopath.	37.81 (8.66)	38.72 (9.54)
PANSS cluster scores		
– Anergia	8.72 (3.68)	9.33 (3.59)
– Thought disturb.	6.86 (2.80)	8.22 (2.87)**
– Activation	5.76 (2.01)	7.04 (1.64)
– Paranoid	5.42 (2.54)	6.86 (2.53)
– Depression	11.40 (3.41)	12.90 (3.66)
– Cognitive^	14.76 (4.61)	17.90 (4.38)***
– Cognitive (no Insight)	12.85 (4.11)	14.36 (3.54)
– Insight	1.91 (1.27)	3.54 (1.50)****

* t=3.29, df 144, p< .001; ** t=2.09, df 144, p< .05; *** t=2.97, df 144, p< .003; **** t=5.39, df 144, p< .0001; ^from Bell et al. 1994

Comment

A renewed interest in the phenomenology of mania and mixed episodes prompted several studies to examine the issue of possible phenomenological differences between the mixed and pure mania [20, 5, 10]. Studies reported that mixed mania may be more common in women [28], more likely to be variable phenomenologically [13], severe and suicidal [24], more familial [7], and associated with alcohol abuse [14]. Other studies report that mixed mania may instead be typical mania, a stage-related or particularly severe form of mania [3]. Our study reports that mixed patients showed a more severe PANSS cognitive cluster and, in particular, a more severe lack of insight. This aspect could cause some problems in differentiating these patients from schizophrenic patients, at least during an acute episode. Some of these patients could share similarities with those described as suffering from cycloid psychosis [25].

Since bipolar disorder is a recurrent illness with significant disability and heterogeneous outcome [12], evidence has begun to accumulate which suggests that a cognitive deficit can be identified in some bipolar patients [15, 6, 2, 18]. Because of the reported correlation between the neuropsychological dysfunction and PANSS cognitive component in psychosis [3], we found that these aspects are more relevant in the clinical phenomenology of the mixed episode.

Because these patients were evaluated during the acute phase of the illness, poor insight could be due to higher severity of the index episode of the manic group. However, Ghaemi et al. [11] and Peralta and Cuesta [23] observed some residual insight impairment at discharge and that the insight level was not significantly influenced by the presence of psychotic features. A major limitation of our study is that we evaluated the patients only during the acute phase of the illness.

Furthermore, even though some studies reported that medication at the time of testing did not influence the cognitive evaluation [15, 16], we cannot exclude that mood stabilizing and/or antipsychotics could have influenced the symptom evaluation of the patient groups.

Our previous findings showed that milder forms of the bipolar spectrum, like the bipolar II disorder, show less insight than bipolar I [22] and now we report that, an the other extreme, mixed patients show less insight.

These findings could have different meanings and im-

plications. We suggest that the lack of insight in the bipolar disorder has a U shaped pattern with more impairment among the less and more severe forms.

Further studies an clinical stability and psychopathological correlates of insight among different subtypes of the bipolar illness are needed to ascertain if the lack of insight does covary with other symptoms or if it has a cognitive substrate [29].

References

1. American Psychiatric Association (1987) Diagnostic and Statistical Manual of Mental Disorders, Revised Third Edition. Washington, DC: American Psychiatric Association
2. Atre-Vaidya N, Taylor MA, Seidenberg M, Reed R, Perrine A, Glick-Oberwise F (1998) Cognitive deficits, psychopathology, and psychosocial functioning in bipolar mood disorder. Neuropsychiatry Neuropsychol Behav Neurol 11:120–126
3. Bell MD, Lysaker H, Milstein RM, Beam-Goulet JL (1994) Concurrent validity of the cognitive component of schizophrenia: relationship of PANSS to neuropsychological assessment. Psychiatry Res 54:51–581
4. Cassidy F, Forest K, Murry E, Carroll BJ (1998) A factor analysis of the signs and symptoms of mania. Arch Gen Psychiatry 55:27–32
5. Cassidy F, Murry E, Forest K, Carroll BJ (1998) Signs and symptoms of mania in pure and mixed episodes. J Affect Disord 50:187–201
6. Coffman JA, Bornstein RA, Olson SC, Schwarzkopf SB, Nasrallah HA (1990) Cognitive impairment and cerebral structure by MRI in bipolar disorder. Biol Psychiatry 27:1188–1196
7. Dell'Osso L, Placidi GR, Nassi R, Freer P, Cassano GB, Akiskal HS (1991) The manic-depressive state: familial, temperamental and psychopathological characteristics in 108 female patients. Eur Arch Psychiatry Clin Neurosci 240:234–239
8. Dilsaver SC, Swann AC, Shoaib AM, Bowers TC (1993) The Manic Syndrome: factors which may predict a patient response to lithium; carbamazepine and valproate. J Psychiatry Neurosciences 18:61–66
9. Dilsaver SC, Chen R, Shoaib AM, Swann AC (1999) Phenomenology of mania: evidence for distinct depressed, dysphoric and euphoric presentation. Am J Psychiatry 156:426–430
10. Double D (1990) The factor structure of manic rating scales. J Affect Disord 18:113–119
11. Ghaemi SN, Stoll AL, Pope HG (1995) Lack of insight in bipolar disorder. J Nerv Ment Dis 183:464–467
12. Goodwin FK, Jamison KR (1990) Assessment of manic and depressive states. In: Manic-Depressive Illness. New York, NY: Oxford University Press, pp. 318–331
13. Himmelhoch JM, Mulla D, Neil JR, Detre TP, Kupfer DJ (1976) Incidence and significance of mixed affective states in a bipolar population. Arch Gen Psychiatry 33:1062–1066
14. Himmelhoch JM, Garfinkel ME (1986) Mixed mania: diagnosis and treatment. Psychopharmacol Bull 22:613–620
15. Hoff AL, Shukla S, Aronson T, Cook B, Ollo C, Baruch S, et al. (1990) Failure to differentiate bipolar disorder from schizophrenia an measures of neuropsychological function. Schizoph Res 3:253–260
16. Joffe RT, MacDonald C, Kutcher SP (1988) Lack of differential cognitive effects of lithium and carbamazepine in bipolar affective disorder. J Clin Psychopharmacol 8:425–428
17. Kay SR (1991) Positive and Negative Syndromes in Schizophrenia. Brunner/Mazel, New York
18. Kessing LV (1998) Cognitive impairment in the euthymic phase of affective disorder. Psychol Med 28:1027–1038
19. Kraepelin E (1921) Manic-Depressive Insanity and Paranoia. Barclay RB (trans.) Edinburgh: E & S Livingstone
20. McElroy SL, Keck PE, Pope HGJ, Hudson JI, Faedda GL, Swann AC (1992) Clinical and research implication of the diagnosis of dysphoric or mixed mania or hypomania. Am J Psychiatry 149:1633–1644.
21. McElroy SL, Strakowski SM, Keck PE, Tugrul KL, West SA, Lonczak HS (1995) Differences and similarities in mixed and pure mania. Compr Psychiatry 36:187–194
22. Pallanti S, Quercioli L, Pazzagli A, Rossi A. Dell'Osso L, Pini S et al. (1999) Awareness of illness and subjective experience of cognitive complaints in patients with bipolar I and bipolar II disorder. Am J Psychiatry 156:1094–1096
23. Peralta V, Cuesta MJ (1998) Lack of insight in mood disorder. J Affect Disord 49:55–58
24. Post RM, Rubinow DR, Udhe TW, Roy-Byrne PP, Linnoila M, Rosoff A, et al. (1989) Dysphoric mania: clinical and biological correlates. Arch Gen Psychiatry 46:353–358
25. Sigmund D, Mundt C (1999) The cycloid type and its differentiation from core schizophrenia: a phenomenological approach. Compr Psychiatry 40:4–18
26. Swanson L, Freudenreich O, McEvoy JP, Nelson L, Kamaraju L, Wilson WH (1995) Insight in schizophrenia and mania. J Nerv Ment Dis 193:752–755
27. Tohen M, Jacobs T, Gannon T, Sauger TM, Greaney M, Tollefson GD, et al. (1999) Antimanic effect and cognitive improvement in psychiatric and nonpsychiatric bipolar I patients treated with olanzapine. Abstract presented at: Mt Sinai Conference an Cognition in Schizophrenia. Santa Fe, New Mexico, April 16–17
28. Winokur G Claytan PJ, Reich T (1969) Manic Depressive Illness. St Louis, MO: Mosby
29. Young DA, Zakzanis KK, Bailey C, Davila R, Griese J, Sartory G et al. (1998) Further parameters of insight and neuropsychological deficit in schizophrenia and other chronic mental disease. J Nerv Ment Dis 186:44–50