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Cristina Toni · Giulio Perugi · Belen Mata · Donato Madaro · Icro Maremmani · Hagop S. Akiskal

Is mood-incongruent manic psychosis a distinct subtype?

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Abstract *Background* Despite several research reports on incongruent psychotic features in mania, whether such features define a distinct disorder is unsettled. *Method* One hundred and fifty-five inpatients with mania according to DSM-III-R were systematically evaluated in order to collect demographic and clinical information. The symptomatological evaluation was conducted by means of the Comprehensive Psychopathological Rating Scale (CPRS) and the Scale for the Assessment of Positive Symptoms (SAPS). The presence/absence of incongruent psychotic symptoms at the index episode defined two subgroups of patients, whose familial, symptomatological, clinical and course characteristics were compared. *Results* Eighty-six (55.5 %) patients presented mood-incongruent psychotic features (MIP+). When this group was compared with the remainder of manic patients without such features (MIP–), we found substantial similarities in most demographic, familial and clinical characteristics. Despite these fundamental similarities, 4 % of MIP+ vs 0 % of MIP– had family history for schizophrenia ($p < 0.05$). We also observed a longer duration of the current episode, a higher percentage of chronic course, more suicide attempts and hospitalisations in MIP+. Moreover, other than psychotic symptoms, MIP+ showed more frequently depressive features and hostility. They also reported higher scores in social disability, especially in family and social settings. *Conclusion* Although our findings suggest that incongruent psychotic features in the main do not distinguish two separate entities – and can be considered as hallmarks of overall severity of mania – in a small minority of cases such features appear linked to familial schizophrenia. The numerous overlapping clinical characteristics in MIP+ and MIP– raise questions about the general nosographic utility of this categorisation.

Key words Mania · Incongruent psychotic features

C. Toni · G. Perugi (✉) · B. Mata · D. Madaro · I. Maremmani
Department of Psychiatry
University of Pisa
Via Roma 67
56100, Pisa, Italy
e-mail: g.perugi@psico.med.unipi.it

H. S. Akiskal
International Mood Disorder Center
Department of Psychiatry at the University of California at San Diego
La Jolla, USA

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Introduction

Even if DSM-III (1980) has recognised the possible occurrence of mood incongruent (and even Schneiderian symptoms) in manic-depressive illness, very few studies (Taylor and Abrams, 1973; Rosenthal et al., 1980; Goodwin and Jamison, 1990; Tohen et al., 1992; Fennig et al., 1996) provided information on the presence of such features in manic episodes, reporting percentages widely ranging from 8 to 84 %. Nonetheless, the occurrence of incongruent psychotic symptoms in affective illness ought to be thoroughly studied, considering their relevance in diagnostic disagreement. In fact psychotic mania, mostly if it is characterised by incongruent features, has been and continues to be frequently misdiagnosed as schizophrenia or other psychotic disorders (Kendler, 1991; McElroy et al., 1996; Ghaemi et al., 1999).

The presence of psychotic symptoms has been related to the episode severity; Carlson and Goodwin (1973) described their appearance as the manic syndrome progressed to "stage II" and "stage III" from "stage I", also reporting covariance between ratings of psychosis and ratings of manic severity. Abrams and Taylor (1981) noted only a trend toward an association between syndrome severity and "schizophrenic features", while Young et al. (1983) found higher severity scores in manic patients with psychotic symptoms compared to nonpsychotic patients.

The relationship between psychotic symptoms and other symptomatological features of mania have been scarcely investigated. Abrams and Taylor (1981) noted a

significant association between walking nude on the street and "schizophrenic" symptoms. Young et al. (1983) found no relationship between psychotic features and language-thought disorder, insight, disruptive-aggressive behaviour, appearance, rate and amount of speech, although psychotic patients reported significantly more elated mood, increased psychomotor activity, energy, sexual interest and sleep disturbances than nonpsychotic. On the contrary, other authors observed a positive relationship between psychotic symptoms and depressive or mixed features (McElroy et al., 1995; Perugi et al., 1997).

Regarding demographic features, no differences have been reported (Young et al., 1983; Fennig et al., 1996). Early age at onset in manic-depressive illness is more likely to be associated with an increased rate of psychotic symptoms, though contradictory results have also been published. Carlson and Strober (1979) found that manic-depressive illness first appearing during adolescence was characterised by florid psychotic symptoms. Rosenthal's group (1980) observed that those bipolar I patients who also met Research Diagnostic Criteria for schizoaffective illness had a younger age of onset and more non-Schneiderian delusions and hallucinations. Rosen et al. (1983) found a negative correlation between age at onset and psychotic symptoms score; similarly McGlashan (1988) found that adolescent-onset patients displayed significantly more delusions and hallucinations than did adult-onset patients. In contrast with these observations, more recently a significantly lower rate of psychotic features has been found in adolescent compared to adult (McElroy et al., 1997) and early vs late onset manic patients (Sax et al., 1997).

Reports concerning familial correlates of psychotic symptomatology during mania have been contradictory. Clayton et al. (1965) found no relationship between family history and psychotic symptoms in mania. Mendlewicz et al. (1972) found that bipolar patients with a family history of affective illness had more frequent psychotic symptoms during mania. Abrams and Taylor (1981) noted a trend toward more family history of affective illness in manic patients with more "schizophrenic" features; Endicott et al. (1986) found that bipolar disorder and psychosis were positively associated in both probands and relatives. More recently, other studies have found increased rates of bipolar disorder in relatives of psychotic affective or schizoaffective patients, especially when the probands have the manic or bipolar subtype of the disorder (Andreasen et al., 1987; Maier et al., 1992; Kendler et al., 1993). Nonetheless, by the comparison between bipolar patients with and without psychotic symptoms no differences in risk for familial mania or depression emerged (Winokur et al., 1995). On the other hand, most family studies that have subdivided a broadly defined group of schizoaffective conditions (including mood disorders with incongruent psychotic features) into a schizophrenic-affective type dichotomy found the more schizophrenic subtype to be more closely linked to schizophrenia than the more affective subtype (Maier et al., 1992).

In summary, the relevance of psychotic symptoms on delineating the clinical picture and evolution of manic illness has not been defined uniformly. It is not clear if they represent state or trait related phenomena, and whether they identify different nosological subcategories. Considering the paucity of information in this field, – especially concerning the incongruent psychotic symptoms – we compared anamnestic and symptomatological characteristics in two subgroups of manic patients with and without incongruent psychotic symptoms, in order to clarify the significance of mood-incongruent psychotic (MIP) features on the clinical presentation and course of mania.

Patients and methods

The study population comprised 155 consecutive inpatients, with diagnosis of mania, according to DSM-III-R criteria (American Psychiatric Association, 1987), seen at the Institute of Psychiatry at the University of Pisa and affiliated clinical facilities over a three-year period; 74 (47.7 %) were males and 81 (52.3 %) females. Their mean age at index evaluation was 37.9 (sd=13.0), with a range of 16 to 69 years. The patients came from a variety of sources, about equally divided between referrals from general practitioners and various medical specialists and psychiatrists. The sample comprised entirely of primary mood disorders, which was obtained after excluding pre-existing organic mental, psychoactive substance use, schizoaffective and schizophrenic disorders. We also excluded patients with established neurological diagnoses (e. g. Parkinson's disease, multiple sclerosis, brain tumour), as well as those with serious or disabling medical conditions.

All patients were assessed by a third-year psychiatric resident with special training in mood disorders; they administered the SID, the Semistructured Interview for Depression (Cassano et al., 1989). This instrument, which systematically collects demographic, anamnestic and clinical information, explores the presence of DSM-III-R criteria for major depressive episode and mania. An initial section is specifically addressed to the exclusion of pre-existing organic mental, psychoactive substance use, schizoaffective and schizophrenic disorders. History of previous hypomanic episodes; temperamental characteristics (hyperthymic or depressive) and first-degree family history for mood and specific anxiety disorders, schizophrenia, as well as for drug and alcohol abuse are also explored. All information is gathered from the patient and at least one close relative (usually parents, siblings); in addition, all available clinical records are carefully examined. Family history data are assessed by the method of the Research Diagnostic Criteria (Andreasen et al., 1977). Inquiry on temperamental attributes is made about the habitual self of the patient – during periods free from affective episodes – from patient and significant others. Our operational criteria for depressive and hyperthymic temperaments represent the University of Tennessee (Akiskal et al., 1987) modification of the Schneiderian descriptions (Schneider, 1958). Interrater reliability estimate of Kappa=0.837 (N=20) was obtained with the investigators of the present study, indicating excellent reproducibility for temperamental evaluation. The SID, developed as part of the Pisa-Memphis (now San Diego) collaborative study on affective disorders, has been used with over 2000 patients at the time of writing: its reliability for diagnostic assessment of patients and their temperaments has been documented elsewhere (Perugi et al., 1990; Perugi et al., 1997).

For the assessment of symptomatology, psychiatrists completed the Comprehensive Psychopathological Rating Scale (CPRS) (Asberg et al., 1978) with the purpose of investigating the general psychopathologic characteristics and the Scale for the Assessment of Positive Symptoms (SAPS) (Andreasen, 1984), principally structured

for the evaluation of psychotic phenomena like hallucinations, delusions, behavioural anomalies and formal thought disorders. Because we were interested in qualitative differences between the two symptomatological patterns of mania, we used these scales in a categorical fashion (presence or absence of the item in question).

The patients were divided in two subgroups on the basis of the presence of incongruent psychotic symptoms at the index manic episode. Incongruent psychotic features were conceived according to DSM-III R definition as: "delusions or hallucinations whose content does not involve typical manic themes of inflated worth, power, knowledge, identity or special relationship to a deity or famous person. Included are such symptoms as persecutory delusions (not directly related to grandiose ideas or themes), thought insertion, and delusions of being controlled".

In order to define the specific characteristics associated with incongruent manic psychosis, the subjects were divided into two groups, with and without incongruent psychotic features. Our hypothesis was that incongruent psychotic features in the main do not distinguish two separate entities and can be considered as hallmarks of overall severity of mania. Comparative analysis for familial, symptomatological, clinical and course characteristics were conducted using the Student's t-test for the dimensional variables, and the χ^2 analysis and the Fisher exact test for categorical. As we are testing the similarity between the two groups, we considered two-tailed levels of significance with $p < 0.05$, without correction for multiple comparisons. This procedure increases the likelihood of type I error (some differences can be attributed by chance), but reduces the possibility of type II error (some differences are not individuated).

Results

Of the 155 manic patients of our sample 86 (55.5 %) presented incongruent features.

Demographic data

The mean index age is comparable in patients with (MIP+) and without (MIP–) incongruent psychotic features (respectively 38.8 ± 11.6 vs 37.2 ± 14.0, t=0.7, p=ns). Females represent 49.3 % (n=34) of the first and 46.5 % (n=40) of the second group (χ2=0.1, df=1, p=ns). Most of the patients of both groups are presently unmarried (p=53.6 % vs 64 %). Married patients made up 46.4 % of the MIP+ subjects, whereas the percentage of MIP– drops to 36 %, 13.9 % of these were divorced against 8.7 % of the MIP+ subjects (χ2=3.3, df=4, p=ns). The prototypical work activities in both groups were those of housewife (MIP+=18.8 %, MIP–=15.1 %), blue collar (MIP+=17.3, MIP–=18.6 %), white collar (MIP+=10.1 %, MIP–=11.6 %) or unemployed (MIP+=15.9 %, MIP–=16.2 %) (χ2=0.05, df=4, p=ns). With regard to schooling, most patients of both groups attended eight or more years of school (MIP+=76.8 %, MIP–=88.4 %; χ2=7.07, df=4, p=ns). As far as residence is concerned, the majority of patients of both groups live in urban zones (MIP+=63.7 %, MIP–=65.1 %; χ2=0.1, df=4, p=ns).

Clinical and course characteristics (Table 1)

Mean age at onset of the mood disorder and mean age at first treatment are similar in the two groups, as well as the mean age at first hospitalisation. The mean number of episodes (depressive, manic, mixed, hypomanic) is similar in both groups. The mean length of current episode, as well as percentage of chronic course, mean number of hospitalisations and suicide attempts, are statistically higher for MIP+ patients. Also in the latter, congruent psychotic features are significantly more represented.

The frequency of rapid cyclicity is low in the entire sample. More than half of the two subgroups shows a premorbid temperament of the hyperthymic type; depressive temperament is equally represented in about 10 % of the two groups. The two groups do not show significant differences either in history of hypomania, spontaneous or pharmacologic.

Family history (Table 1)

First-degree family history for major depression and bipolar disorder is present in a similar percentage in both groups. The same is true for family history for alcohol abuse. It is noteworthy that nearly half of both groups of manic patients have family history for mood disorder, whereas family history for schizophrenia is extremely low in MIP+ patients and completely absent in MIP– subjects.

Social disability (Table 1)

Higher levels of disability are recorded in MIP+ patients compared to MIP– ones, regarding either family or social adjustment. No differences are present for work adjustment: both groups show high scores of disability, with similar values.

Symptomatology (Table 2)

With regard to the symptomatological aspects investigated by means of CPRS (reported psychopathology), sadness, inner tension and hostile feelings characterise MIP+ patients. Suicidal ideas are present in low percentage in the latter, but are completely absent in MIP– subjects. As expected, in MIP+ patients psychotic items (ideas of persecution, delusions and auditory hallucinations) are more represented than in MIP–. Also cognitive symptoms (concentration difficulties and failing memory), as well as somatic manifestation (aches and pain) are more represented in MIP+. On the contrary, increased sexual interest is the only manifestation that prevails in MIP– subjects. Also in the section of the CPRS that registers observed psychopathology, sadness and hostility characterise MIP+ group, while logorrhea is more common in MIP–.

As for the symptomatologic aspects evaluated by means of the SAPS, MIP+ patients are statistically distinguished from MIP– ones by auditory hallucinations,

Tab.1 Clinical features and first degree family history in manic patients with and without incongruent psychotic features

	Mania with incongruent psychotic features (n=69)	Mania without incongruent psychotic features (n=86)	t or $\chi 2$ (df=1)	p
Age, mean (ds)	38.8 (11.6)	37.2 (14.0)	0.7	ns
Age at onset, mean (ds)	25.8 (8.0)	25.7 (9.6)	0.8	ns
Age 1st treatment, mean (ds)	27.4 (8.7)	26.5 (9.7)	0.5	ns
N. hospitalisations, mean (ds)	4.6 (5.0)	2.5 (3.0)	3.3	0.002
N. episodes mean (ds)				
Depression	2.3 (2.6)	3.3 (4.4)	–1.6	ns
Mania	3.5 (3.6)	3.6 (4.3)	–0.2	ns
Mixed	0.4 (1.2)	0.5 (1.6)	–0.4	ns
Hypomania	0.9 (2.4)	0.7 (2.2)	0.6	ns
Age 1st hospitalisation, mean (ds)	30.0 (10.5)	28.8 (12.9)	0.6	ns
Length current episode (months), mean (ds)	12.5 (23.9)	5.8 (17.9)	2.0	0.05
1st episode polarity, n (%)				
Depression	33 (47.8)	55 (63.9)		
Mania	29 (42.0)	21 (24.4)		
Mixed	7 (10.1)	10 (11.6)	5.5(df=2)	0.06
Congruent psychotic features, n (%)	50 (72.5)	38 (44.2)	12.5	0.0004
Stressors, n (%)	7 (10.1)	8 (9.3)	0.3	ns
Suicide attempts, current episode, n (%)	3 (4.3)	0 (0.0)	3.8	0.05
Rapid cycling, n (%)	1 (1.5)	2 (2.4)	0.2	ns
Hyperthymic temperament, n (%)	38 (55.1)	49 (57.0)	0.6	ns
Depressive temperament, n (%)	11 (15.9)	11 (12.8)	0.3	ns
Hypomania, n (%)	21 (30.4)	19 (22.1)	1.4	ns
Pharmacologic hypomania, n (%)	24 (34.8)	28 (32.6)	0.9	ns
Chronic course, n (%)	14 (20.3)	6 (7.0)	6.0	0.014
Social disability, mean (ds)				
Family	4.4 (.97)	3.7 (1.3)	3.1	0.003
Social	4.3 (1.2)	3.8 (1.4)	2.3	0.025
Work	4.7 (1.0)	4.5 (1.5)	0.5	ns
First-degree family history, n (%)				
Major depression	20 (29.0)	19 (22.1)	1.0	ns
Bipolar disorder	18 (26.1)	16 (18.6)	1.3	ns
Schizophrenia	3 (4.3)	0 (0.0)	3.8	0.05
Alcohol abuse	6 (8.7)	4 (4.6)	1.0	ns

delusions of persecution and of reference. No differences are recorded regarding behavioural anomalies or formal thought disorders.

Discussion

The main limitation of our study concerns the difficulty of collecting data from patients impaired by a severe mood disorder. We tried to overcome this limitation by interviewing family members and/or cohabitants of our patients, mostly to gather information about the course of the illness, the conduct and the social adjustment.

The occurrence of incongruent psychotic symptoms during mania is a frequent condition in clinical samples. More than half (55 %) of our inpatients, selected according to DSM III-R criteria for mania, presented incongruent psychotic symptoms. When this group is compared to MIP– patients, in agreement with most observations in this field of research (Young et al., 1983; Fennig et al., 1996), substantial differences in numerous demographic and clinical characteristics do not emerge, which testifies to the membership of both disorders to the same nosographic realm. Index age, age at onset, age of first treatment, polarity of the first episode, number of episodes, presence of hypomania, pharmacologic hypomania and affective temperament distribution appear similar in the two groups. Although some have reported a correlation between early age at onset and psychotic symptoms (Carlson and Strober, 1979; Rosenthal et al., 1980; Rosen et al., 1983; McGlashan, 1988), our data are consistent with the findings of those who have not confirmed such a relationship (McElroy et al., 1997; Sax et al., 1997; Perugi et al., 2000). Despite these fundamental similarities, we observed in MIP+ some characteristics that might be conceived as hallmarks of severity and chronicity: a longer duration of the current episode, a higher percentage of chronic course, more suicide attempts and hospitalisations. These findings are consistent with most of the previous literature (Tohen et al., 1990; Coryell et al., 1990; Perugi et al., 1999). The presence of psychotic symptomatology during manic episodes has been considered as a negative long-term prognostic feature and a negative relationship between psychotic symptoms, therapeutic response and time spent in remission has been ascertained (Young et al., 1983; Rosen et al., 1983; Tohen et al., 1992). In particular, poor treatment outcome has been associated with

Tab.2 Symptomatological features in manic patients with and without incongruent psychotic features*

	Mania with incongruent psychotic features (n=69)	Mania without incongruent psychotic features (n=86)	$\chi 2$ (df=1)	p
Items of CPRS, N (%)				
Reported psychopathology				
Sadness	7 (10.1)	2 (2.4)	4.0	0.044
Inner tension	37 (53.6)	31 (37.3)	4.0	0.044
Hostile feelings	51 (73.9)	44 (53.0)	7.0	0.008
Inability to feel	8 (11.6)	3 (3.6)	3.6	0.06
Suicidal ideas	4 (5.8)	0 (0.0)	4.9	0.026
Concentration difficulties	32 (46.4)	25 (30.1)	4.2	0.039
Failing memory	19 (27.5)	12 (14.5)	4.0	0.046
Increased sexual interest	17 (24.6)	43 (50.0)	10.4	0.0011
Aches and pain	14 (20.3)	6 (7.2)	5.6	0.0177
Ideas of persecution	61 (88.4)	14 (17.3)	75.4	0.0001
Other delusions	16 (23.2)	6 (7.2)	7.7	0.0054
Other auditory hallucinations	12 (17.4)	6 (7.2)	3.7	0.053
Observed psychopathology				
Sadness	5 (7.2)	1 (1.2)	3.6	0.056
Hostility	51 (73.9)	44 (53.0)	7.0	0.008
Logorrhea	56 (81.2)	78 (94.0)	5.9	0.0149
Items of SAPS, N (%)				
Hallucinations				
Auditory hallucinations	12 (18.9)	6 (7.1)	4.4	0.036
Delusions				
Delusions of persecution	19 (28.8)	9 (10.6)	8.1	0.004
Delusion of reference	52 (78.8)	12 (14.1)	63.7	0.0001

* = Items that were not statistically different between the two groups are not reported in the table

presence of hallucinations (Taylor and Abrams, 1975), persecutory delusions (Beigel and Murphy, 1971; Murphy and Beigel, 1974; Taylor and Abrams, 1975) or formal thought disorder (Tohen et al., 1992).

In our sample, in accordance to Fennig et al., (1996) who found a poor GAF rating in mood incongruent psychotic patients, MIP+ showed higher scores in social disability, that distinguish them from MIP–, especially in family and social settings. Probably MIP+ are disadvantaged in interpersonal relationships, due to the typology of their psychotic symptomatology (persecution, reference delusions, hostility), whereas MIP– are more syntonic with others.

Also several symptomatological differences emerged between the two groups. Psychotic features are obviously more frequently recorded in MIP+, as far as delusions of persecution, of reference and auditory hallucinations are concerned. It is, nonetheless, noteworthy to underscore the fact that in MIP+, unlike schizophrenia, flat or inappropriate affect, as well as formal thought disorder (incoherence, derailment, tangentiality) and stereotyped behaviour, are rare.

Besides psychotic features, MIP+ show depressive features and hostility more frequently than MIP– ones. This observation is in agreement with Carlson-Goodwin staging of mania (1978) from stage I to III, where psychotic, depressive and dysphoric features emerge at late stages. The presence of higher percentages of somatic complaints and of cognitive difficulties in MIP+, compared to MIP– ones, might reflect elevated levels of anxiety and inner tension. MIP– subjects more often appear talkative and report an increased interest in sexual activities. This last finding, even if contradicted by Young et al. (1983) observations, might be consistent with our observations regarding lower levels of hostility and tension and a better adjustment in social and interpersonal relationships in MIP– subjects.

Overall, our findings suggest that psychotic features do not distinguish two separate entities, but might be considered as hallmarks of overall state severity. The numerous overlapping clinical and psychopathological characteristics in MIP+ and MIP– raise questions about the general nosographic utility of this categorisation. Nonetheless, the small number of cases of MIP+ with higher familial schizophrenia does suggest some continuum between the extremes of manic psychosis and schizophrenia.

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