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The Role of Mania in the Genesis of Dangerous Delusional Misidentification

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ABSTRACT: The delusional misidentification syndromes are characterized by a misidentification delusion of the self and/or others. Delusional misidentification syndromes frequently occur in psychotic disorders such as schizophrenia, psychotic disorder due to general medical condition, or psychotic disorder not otherwise specified. On rare occasions these syndromes may be associated with manic states secondary to bipolar disorder, schizoaffective disorder, or general medical conditions. The delusional misidentification syndromes may also be associated with verbal and physical aggression. In this article we present three cases of dangerous delusional misidentification associated with mania. We will discuss the role that mania may have in the genesis of dangerous delusional misidentification.

KEYWORDS: forensic science, forensic psychiatry, dangerousness, delusional misidentification, violence, aggression, mania, bipolar disorder, schizoaffective disorder

The association between delusional thinking and dangerous behaviors has been studied intensively in different delusional systems (1–3). The delusional misidentification syndromes (DMS's) have also recently received special attention as a potential model for dangerous delusional systems (4–8). The reasons for this development include advances in the phenomenological classification and progress made in the biological characterization of delusional misidentification. This progress in turn, is paving the way for the development of a comprehensive model of these delusional states (9–13). The DMS's are defined as psychotic syndromes that involve a delusion of physical and/or psychological misidentification of the self and/or of others in the environment of the affected person (10,14). Capgras syndrome is the most commonly reported DMS, and consists of a delusional belief of radical change in the psychological makeup of others without major changes in physical appearance (10,15–18). All DMS's are conceptualized as either syndromes or delusional symptoms and are part of a formal mental disorder. The most common disorders associated with DMS's are schizophrenia, psychotic disorder not otherwise specified, and psychotic disorder secondary to general medical conditions (17,19). Mood disorders may also co-occur with DMS's but this association appears to be infrequent (17).

During the last decade, studies by Silva and colleagues and other investigators have shown that delusional misidentification may predispose some individuals to verbal and physical aggression (4–8,20,21). There are multiple psychiatric factors that may predispose DMS individuals to become dangerous to others (8,21). In this article we review the literature linking mania to the formation of dangerous delusional misidentification. We present three cases of dangerous DMS's associated with mania in order to highlight important characteristics of individuals suffering from these dangerous delusions, and important issues surrounding this phenomenon.

Methods and Results

The anglophonic psychiatric literature from 1945 to 1995 was reviewed for all cases of dangerous delusional misidentification co-existing with mania and in which the mania was thought to be a cause of the dangerous delusional misidentification. The search yielded eleven cases and they form the basis for our descriptive statistics. A 12th case qualified for mania and dangerous DMS, however, the information that was provided regarding phenomenology did not allow for an unambiguous characterization of specific DMS's (22). Dangerousness was defined as serious verbal threats or violent behavior toward others thought to be caused at least in part by delusional misidentification and mania. From the 11 published cases we collected demographics, diagnostics, types of DMS's present, other symptom information, and data pertaining to dangerousness.

The data on the three index cases are found in Table 1 as well as in the description of the case histories. Tables 2 and 3 collate 11 cases collected from previously published cases of dangerous DMS's associated with mania (6,8,14,23–26). Table 2 describes demographic, diagnostic, and DMS phenomenological characteristics including presence of other delusions. Table 3 provides a summary of data relevant for assessing dangerousness.

Case 1

Mr. A is a 19-year-old male who was evaluated psychiatrically after he was charged with killing his uncle, Mr. D, and severely assaulting other family members. During the day of these aggressive criminal offenses Mr. A claimed that his uncle was the devil and said that he had a personality different than his usual self. He

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TABLE 1—*Characteristics of DMS's relevant to dangerousness.*

Case	Dx	DMS's	DMO's	Method of Attack	Outcome
1	A	a,b	uncle, aunt	stick	death, severe physical injuries to DMO's
2	B	a,c	strangers	fists	physical injuries to DMO's
3	A	c	self	hands	physical injuries to others

DMS = delusional misidentification syndrome (a = Capgras; b = intermetamorphosis; c = reverse Fregoli).
DMO = delusionally misidentified object.
Dx = diagnosis (A = bipolar disorder; B = schizoaffective disorder).

TABLE 2—*Demographic, diagnostic, and DMS characteristics.*

Case	Age/Sex	Dx	DMS	Other Delusions	Reference
4	39/M	B	1	a,b,c	6
5	41/M	A	1	a	6
6	41/M	B	1	a,b	6
7	20/M	A	1	a	8
8	45/M	A	1,4	a,b,c	8
9	34/M	B	1,2,3,4	a,b	14
10	27/F	C	4	a,b,c,d	23
11	33/M	A	1	a,b,c	24
12	48/M	A	1,4	a,b,c	24
13	27/M	B	2,4	a,b,c	25
14	38/F	B	5	a,d,e	26

M = male; F = female.
Dx = diagnosis (A = bipolar disorder; B = schizoaffective disorder; C = psychotic disorder due to general medical condition).
DMS = delusional misidentification syndrome (1 = Capgras; 2 = intermetamorphosis; 3 = subjective Capgras; 4 = reverse Capgras; 5 = reverse intermetamorphosis).
Other delusions (a = paranoid; b = grandiose; c = religious; d = somatic; e = jealous).

TABLE 3—*Affective correlates of dangerous DMS's associated with mania.*

	Symptoms and Behaviors Secondary to DMS				
Case	Verbal Hostility	Violence	Methods of Violence	Fear	History of Violence
4	+	+	Unknown	+	−
5	+	−	−	+	−
6	+	+	Hand strike, choke	+	+
7	+	−	−	+	−
8	+	+	Hands	+	−
9	+	+	Hands	+	+
10	−	−	−	−	+
11	+	+	Stabbing, strangle	+	−
12	+	+	Iron bar, strangle	+	−
13	+	−	−	+	−
14	+	−	−	−	−

DMS = Delusional misidentification syndrome.
+ = present; − = absent.

denied any radical physical changes in his uncle's bodily structure. He also stated that an aunt, Mrs. E, had acquired a different facial structure, noting that her nose had a new shape and that the shape of her face appeared asymmetrically distorted. He also believed her hair was fake and that her skin appeared very smooth, unlike the original. These perceptions had led Mr. A to conclude that Mrs. E was a witch who had the power to undergo physical transformations. He thought that her psychological makeup was dramatically different from her usual psychological makeup. In addition, he believed that his brother was involved in a conspiracy with this uncle and aunt, aimed at killing Mr. A. He also reported that his mother wanted to harm him. In the past he had thought that his parents were impostors with different psychological makeups than the originals but without physical changes in them. At the time that he was psychiatrically evaluated for the alleged crimes he also believed that many of the psychiatric patients were impostors sent to the psychiatric unit in order to investigate and harm him. On several occasions in the past, he believed that he was God and, at other times, Jesus Christ. He denied any radical physical changes in his identity at the time that he thought he was a supernatural figure.

In regard to the alleged homicide of his uncle, Mr. A stated that he had proceeded to hit both Mr. D and Mrs. E with a long stick in order to defend himself from their homicidal intentions toward him. He had also beaten his mother and brother with his fists because of their alleged accomplice status with his uncle and aunt. The defendant's uncle died as a result of Mr. A's attack while the rest of the family members he attacked sustained injuries but survived. Mr. A had been diagnosed with bipolar disorder since age 18 years. He had no criminal history and no significant history of violence. He had a negative psychiatric family history.

In addition to the previously noted symptoms, Mr. A also exhibited poor attention span, flight of ideas, labile mood, hostile affect, and psychomotor agitation. He had been unable to sleep well during the weeks prior to the alleged homicide. Mr. A's physical examination was normal. His complete blood count, urinalysis, and serum chemistries were within normal limits. He denied any history of head injury or major medical illnesses. Mr. A met DSM-IV diagnostic criteria for bipolar disorder, manic (27). He was treated with 1500 mg of lithium and 20 mg of fluphenazine daily. After several months of treatment all of Mr. A's delusions and manic symptoms disappeared. He regained his insight and realized that he had killed his uncle and harmed his family members while in his delusional and manic state.

Case 2

Mr. B is a 36-year-old male who was admitted to a psychiatric hospital because of increasingly hostile verbal threats. During his current hospitalization he expressed the belief that the entire world, including his treatment team, were people who had died and who currently existed with radically altered minds from the ones that once had inhabited the original bodies. Mr. B believed that his mother had first become a zombie after she obtained guardianship over his financial affairs and that she, along with the others, was systematically stealing his money, reading his thoughts, and commanding him to hurt himself in order to become a zombie. During his index hospitalization Mr. B denied any intention to physically harm himself or others, but stated that he would attack the zombies in self-defense if necessary. In the past he had been involved in numerous physical fights with others whom he believed were either zombies or had experienced identity substitution in some way. Mr.

B also believed that he had found the "formula for the fountain of youth" and, through this, was becoming physically younger each day. He demonstrated for his treatment team each morning that the wrinkles around his eyes and forehead were disappearing in an attempt to validate his belief. On a prior admission he stated a belief that a physical replica of himself existed.

Mr. B's complete blood count, serum chemistries, and urinalysis were within normal limits as was his physical and neurological examinations. His head CT and EEG were unremarkable. Urine toxicology screen on admission was positive for cocaine and cannabinoids.

Mr. B met DSM-IV criteria for schizoaffective disorder, bipolar type as well as cocaine and cannabis abuse (27). The patient was treated with a combination of 100 mg of haloperidol decanoate every four weeks and 800 mg of carbamazepine daily with the patient reaching a therapeutic carbamazepine level prior to discharge. This regimen decreased but did not eliminate his manic behavior. Auditory hallucinations also diminished. His delusional misidentification did not disappear in spite of the aforementioned psychopharmacological treatment.

Case 3

Mr. C is a 40-year-old male who was arrested because he had stolen groceries. At the time of the alleged crime he believed that he was living in a world identical in appearance to the earth except for different but milder weather patterns. He also believed that he had been able to drain all evil from the "parallel earth" and saw himself as a messianic messenger for the new world. He had taken the merchandise from the grocery store because he believed that under a "new world order" taking food without paying was acceptable to society.

After his arrest, Mr. C was taken to jail where he expressed the belief that his present body was beginning to rematerialize in the "new earth" but added that the process was not complete. In order to hasten the process of rematerialization he had decided to pour large quantities of water in his jail cell hoping that his allegedly dehydrated body would absorb the water and would then completely rematerialize in the new earth. He stated that even during the process of rematerialization he had already become a new person because he had previously acquired a new bodily identity. Nevertheless, he denied that his radical body changes had altered his mind. After Mr. C began pouring water in his cell the jail deputies arrived. He then began fighting with the deputies, thinking that they were preventing his new body from being completely reformatted. He recalled that at that time he was afraid that others were trying to invade his brain. He also said he had fought the deputies because he was fearful that if his body was not fully rematerialized he could permanently end up with an unwanted bodily identity. One of the deputies who had attempted to restrain Mr. C sustained physical injury. During the alleged crime Mr. C appeared agitated, exhibited pressure of speech, experienced mood lability as well as hostile and anxious affect, had poor concentration and displayed poor judgment and no insight into his illness.

Mr. C said that a few weeks prior to the alleged crime his mind had been substituted for that of his brother. At various times in the past he had also believed he was the son of Buddha or Jesus Christ. During those times he denied undergoing any physical changes. In the past he had also thought that there existed physical replicas of him with minds different than his own. On another occasion he believed he was transforming physically into a woman sensing the development of a clitoris and the flow of a menstrual period. He denied major personality changes at that time.

His physical examination was normal except for two healing lacerations on his scalp sustained during the jailhouse altercation with the deputies. There is no family history of mental illness. He had no significant history of violence. Mr. C had suffered from psychotic thinking since age 28. He met DSM-IV criteria for bipolar disorder, manic (27). He was treated with 1200 mg of lithium carbonate and his delusions and manic symptoms abated.

Discussion

Phenomenology of Delusional Misidentification

Mr. A displayed a belief that his uncle was the devil and that he behaved like a demon. His uncle's alleged changes in personality coupled with Mr. A's belief that there were essentially no significant changes in physical makeup indicated that the uncle physically attacked by Mr. A had become a delusionally misidentified object consistent with Capgras syndrome (9,10,15–19,28). Mr. A also conceptualized another aunt as a witch because of perceived marked changes in her physical identity and personality. This presentation is consistent with the syndrome of intermetamorphosis in which the delusionally misidentified object is thought to be fundamentally different both physically and psychologically from the original object. The new object is thought to have a new personal identity (29,30). There is also evidence that, in the past, he had exhibited Capgras delusions involving his parents. In addition, in the past he had believed that he was Jesus Christ and God without beliefs of physical changes in himself. This presentation is therefore consistent with a reverse subjective doubles syndrome (9) also known as a syndrome of psychological misidentification within the self (31).

Mr. B presented with a delusion that many of his family members and United States politicians had died and that their bodies then harbored different personalities than the originals. At times he believed that some of the misidentified people were physical reproductions of the originals who nevertheless harbored a different psychological makeup than the original objects. This presentation is consistent with Capgras syndrome because the affected individual believes that others somehow acquire a new psychological identity with no change in physical appearance (10,15–18). Mr. B also believed that he was able to physically metamorphosize into a new and younger man with larger musculature and no facial wrinkles, but denied any significant personality changes. As a result of these changes he believed that he had acquired a new personal identity. This presentation is consistent with a Frégoli syndrome of the self (10,32). Mr. B also had suffered from subjective delusional misidentification of the self because in the past he had believed that a physical replica of the patient himself existed (15,17,33).

The case of Mr. C illustrates a delusion of misidentification in which the affected individual believed that he had undergone radical physical changes and, as a result, believed himself to have a different identity. This phenomenon is consistent with the syndrome of reverse Frégoli as defined by Silva and his colleagues (10,32). Mr. C also in the past had experienced beliefs that he was psychologically a religious figure without experiencing changes in his physical identity. This presentation is consistent with the syndrome of subjective delusional misidentification within the self, also known as reverse subjective doubles syndrome (9,10,31). Mr. C also had experienced in the past beliefs in physical replicas of himself, consistent with the syndrome of subjective delusional

misidentification (15,17,33). At the time that Mr. B attacked the deputies in his jail cell he also believed that he was living in a physical replica of the earth, a phenomenologic presentation suggestive of reduplicative paramnesia (34).

Diagnostic Issues

The patients in the three index cases involving misidentification also suffered from mania. Both Mr. A and Mr. B had experienced episodes of depression in the past. During their current episode as well as in previous episodes they had experienced pressure of speech, grandiose delusions, psychomotor agitation, impaired insight, mood lability, decreased need for sleep, and diminished attention. No evidence for general medical illnesses was found that could have accounted for the psychotic or manic symptoms. The current symptoms coupled with their historical course are consistent with a DSM-IV diagnosis of bipolar disorder, manic for Mr. A and schizoaffective disorder, bipolar type for Mr. B (27). Although mood abnormalities are common in psychotic disorders associated with delusional misidentification (9), formal mood disorders are rarely encountered in the DMS's (17,19). More specifically formal mood disorders associated with depression, mania or both such as the mixed type of bipolar disorder are infrequently associated with DMS's. This is supported by Berson's extensive review of cases of Capgras syndrome in the anglophonic literature in 1983 (17). Berson listed only three cases of bipolar disorder and a fourth case in which it was a possibility. He also noted two cases of schizoaffective disorder (17). These findings should be interpreted with caution because information regarding the epidemiology of the DMS's is limited (4,35,36). This is especially true for those DMS's associated with bipolar disorder or mania because the information base regarding DMS's secondary to mania is extremely sparse. This is reflected in Table 2 which presents all cases suggestive of mania or hypomania associated with dangerous DMS's encountered in the anglophonic psychiatric literature. Because not all cases associated with mania have a diagnosis of bipolar disorder, the diagnoses are also provided. The different co-occurring DMS's are also listed. Demographic variables of sex and age are also provided.

Dangerousness

Cases 1, 2, and 3 illustrate delusional misidentification directed at people in the patient's environment that resulted in violence toward those misidentified objects. In case 1, a Capgras and intermetamorphosis process were at work while the delusionally misidentified figures were physically attacked. In case 2, Capgras syndrome had been present while Mr. B had been violent or had threatened violence toward misidentified persons. In both cases there was a general paranoid delusional component closely coupled with the DMS, thereby causing the affected individual to experience fear and hostility toward the misidentified objects that were eventually attacked. All of the 11 cases in the psychiatric literature of dangerous delusional misidentification associated with manic spectrum pathology also presented with a paranoid delusional component (see Table 2), underscoring the fact that paranoid ideation is likely to have catalyzed hostility in these cases (6,24) and that most DMS cases are associated with a paranoid delusional component (17,19,21). It should also be emphasized that the cases of Mr. A, Mr. B, and Mr. C were associated not only with fear but also with hostility. This finding is consistent with similar cases that have been published in the literature (see Table 3). At the time that they were violent toward others the patients in cases B and C believed that they had special physical identities other than their objective physical identities and their concern centering around these delusions led them in part to become violent toward others. There was a difference between these two cases in that Mr. B grandiosely believed that his powerful physical identity would allow him to succeed in his physical confrontations with others while Mr. C's fear of remaining in his new physical makeup was the partial cause for his attack on others.

Mania is a well documented correlate of violent behavior. Yesavage's study of 40 male patients with bipolar disorder found that inpatient physical assaults were strongly associated with a manic state, the degree of psychosis, a previous history of violence, and a past history of severe childhood discipline (37). Winokur and colleagues studied a sample of 61 manic patients, of which 83% exhibited aggression (38). The aggression was generally verbal and not physical in nature. Of the verbally aggressive patients in their sample, two made homicidal threats. Fourteen percent of these patients had been hospitalized because of assaultive or destructive behavior (38).

Because manic and DMS patients may become aggressive, a combination of mania and delusional misidentification in the same individual may therefore be a particularly potent cause of aggression. Mania was present in all three cases of our sample, and in all three cases mania in conjunction with delusional misidentification appears to have contributed to the individual's dangerousness. In the case of Mr. A there was a grandiose belief of delusional proportions that he was a man of unusual moral religious standards that frequently, in the past, had led to misidentification delusions of being God or Christ. These grandiose religious ideas also had caused him to want to confront the misidentified figures of others because of a conceptualization of them as evil, as the devil, as a witch, or as accomplices of morally evil figures. In Mr. A's case his manic agitation hampered any of his efforts to reflect on his actions. In Mr. B's case he saw himself as a powerful physical figure and this grandiose self-concept, which reached delusional intensity, facilitated his resolve to attack both misidentified and non-misidentified figures with little fear for retaliatory consequences. His increased agitation and lack of concentration also reduced his ability to reflect on his actions. In Mr. C's case his mania led him to believe that he was a person with special powers and a new, but unwanted, physical makeup. As in the cases of Mr. A and Mr. B, the two symptoms associated with his manic state, namely his lack of concentration and his inability to reflect on his actions facilitated his resolve to attack others. We note that the dangerous cases of mania associated with DMS's reported in the present series coupled with similar cases in the psychiatric literature illustrate that the range of aggression can be vary from mild verbal aggression to mortal physical attack (see Table 3).

In the case of Mr. A, the religious component of his delusions may also have contributed separately to his dangerousness. Mr. A believed that his high religious standards were defied by two of the misidentified figures that he attacked, who were conceptualized by him as morally and religiously corrupt supernatural beings. Previous cases of delusional misidentification have been documented in the literature indicating that religious delusional cognitions may result in violence toward misidentified figures of others (39). Six of the eleven cases of dangerous DMS's associated with mania also presented with religious delusions (see Table 2).

Other delusions have also been reported in the literature that may become closely related to dangerous DMS and mania. In

1993, Silva and colleagues reported the case of a 38-year-old woman suffering from schizoaffective disorder who was also experiencing somatic delusions in which she changed from a female to male body. Both Mr. B and Mr. C may be similarly conceptualized as having experienced somatic delusions of radical bodily change that contributed to their physical assaultiveness. In the case reported by Silva and colleagues the patient believed that as she changed to a new person (part man—part woman) her husband was becoming interested in other women. This alleged adulterous behavior led her to threaten to stab her husband. This case illustrates the fact that delusional misidentification may also be associated with a component of delusional jealousy and that those two delusions may interact to increase risk of aggression toward others (26; see Table 2).

In conclusion, dangerous DMS's may be associated with mania and the two may then act in concert to increase the level of dangerousness in such affected individuals. However, it appears that other co-occurring symptoms such as paranoid ideation, and other delusions such as delusions of jealousy and somatic delusions may interact in various ways to cause the dangerous DMS's associated with mania. The specific interactions are complex and remain to be further elucidated. Greater numbers of these individuals need to be studied in order to characterize the tangled web of relationships underlying the dangerous states involving delusional misidentification and mania.

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