Dangerous Delusions? Misidentification Syndromes and Professional Negligence

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A number of case histories have reported an association between the presence of misidentification syndromes and violent behavior. If patients with such delusions are truly more likely to perpetrate violent acts, treating mental health professionals could potentially be considered liable for not warning or protecting potential victims. However, the purported association between violence and misidentification can be adequately explained by biased case ascertainment and reporting. The current literature on misidentification syndromes is used as a means of demonstrating possible sources of error and bias that must be considered whenever mental health professionals are asked to reach conclusions about the relationship of rare events.

Delusional misidentification syndromes have fascinated clinicians for decades. Capgras syndrome, probably the best-known of the group, is characterized by the delusion that a familiar person has been replaced by a double or impostor. Others include Fregoli syndrome (the belief that persecutors have disguised themselves as benign individuals in the patient's environment), the syndrome of intermetamorphosis (the delusion that several people have changed place or identity with one another), and the syndrome of subjective doubles (the delusion that precise psychological or even physical doubles of the patient exist) as well as variants of these.[1-8]

In a number of case reports, patients with Capgras and related syndromes have threatened or acted in a violent and even deadly manner toward the object of their delusions,[9-14] thus causing the syndromes to come to the attention of forensic mental health professionals. Such occurrences, while uncommon, are hardly vanishingly rare; for example, Silva and coworkers[15] ascertained 29 patients with misidentification syndromes from a forensic psychiatry service, reporting that 45 percent had acted violently in association with their delusions. Based on their experience, these authors suggest the possibility that

> . . . [M]isidentification syndromes present with a specific combination of psychodynamics and environmental variables that heighten the dan-

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> ger presented by these delusional individuals[14, p. 13-14]

Similarly, de Pauw and Szulecka[12, p. 95] have hypothesized that

> Where the clinical picture is marked by morbid suspiciousness, hostility and discord, as well as previous aggressive behaviour, delusions that focus on interpersonal relationships (i.e., the syndromes of Capgras, Subjective Doubles, Fregoli and Intermetamorphosis) ... render these patients particularly prone to attack the subjects of their misidentification.

Clinical observations such as these often provide insights leading to advances in treatment. However, in many cases, such hypotheses are not verified by subsequent clinical studies designed to rigorously test them.

Such testing may not always be done before such hypotheses are given credence, however. Premature acceptance of such an association is particularly troublesome when violence is at issue, since violent behavior on the part of patients continues to be an active area of litigation. Certainly there have been a number of cases in which liability has been assigned to treating mental health professionals, even where there appears to be little scientific justification in doing so.[16]

If there is sufficient reason to believe that patients with misidentification syndromes do in fact present elevated risk of violent behavior—or, more likely, if such a possibility is raised by a plaintiff's attorney in a medical malpractice action—it could be contended that mental health professionals should routinely assess for the presence of misidentification syndromes so that violent acts could be prevented, and that the treating mental health professional might even have a duty to warn or otherwise protect the potential victim. Failure to predict (and prevent) such an assault might, under such a theory, be considered negligent.

The purpose of this article is twofold: Specifically, we review current clinical and research understanding of the misidentification syndromes, and on that basis determine whether a conclusion that misidentification syndromes present an increased risk of dangerousness is currently justified. More generally, this exercise is intended to highlight some of the methodological pitfalls that exist whenever conclusions regarding co-occurrence of rare events are drawn.

Epidemiology of the Misidentification Syndromes

Misidentification syndromes are believed to be rare. Morrison[17] reported that over a six-year period, 0.3 percent of his patients showed Capgras delusions. Similarly, Walter-Ryan[18] reported a prevalence of Capgras syndrome in his practice of between 0.75 and 3.4 percent of admitted patients during a three-year period, depending on how restrictive a definition of the phenomenon was used.

Both reports were retrospective in nature and were based on reviews of individual practices. Fishbain,[19] over a one-year period, screened 4,200 psychiatric emergency room patients by direct evaluation, chart review or report by other staff. By this method six Capgras cases (0.14% of all contacts) were identified, though as the author pointed out, the true prevalence might have been underestimated either because the patient did

not present with misidentification as a chief complaint, or because some patients may have concealed those delusions. It is not clear in this series whether misidentification phenomena were systematically assessed.

Thus, the few studies that have addressed the epidemiology of misidentification syndromes provide estimates of prevalence (all those who are or have been ill during the study period), rather than incidence (appearance of new cases within a specified period), and probably underestimate true prevalence because of their treatment focus. It is also likely that remitted cases and those that did not present for treatment of misidentification were missed.

To our knowledge, there have been no systematic studies of the incidence or prevalence of Capgras or other misidentification phenomena in the general population. While prevalence even in treated populations appears to be low, there is evidence to suggest that many if not most cases will be missed unless misidentification is spontaneously mentioned by the patient. Given the prevalence of schizophrenia in the general population (about 0.7 to 1%[20]), and the finding that rates of misidentification delusions may be reported to be as high as 15 percent among hospitalized schizophrenics *when they are systematically inquired about*,[21] an unknown (but perhaps large) number of people may have or develop misidentification phenomena. This finding suggests that, if misidentification is in fact a risk factor for violence, the pool of individuals "at risk" for behaving violently may be larger than has been generally recognized.

Validity of Misidentification Syndromes as Distinct Entities

It is commonly accepted that the basic foundation for establishing syndromes as clinically valid and distinct entities includes formulation of unambiguous definitions to facilitate reliable diagnosis, demonstration of adequate separation from other psychopathological conditions, evidence of longitudinal stability, evidence of familial occurrence, and (if possible) confirmatory laboratory studies.[22] Unfortunately, empirical support for the distinctness of the misidentification syndromes is lacking.

First, phenomenologic description and delimitation of the misidentification syndromes are less than clear. Some authorities suggest that the appellation of Capgras syndrome, for example, should be given to those who exhibit "the delusional belief in the existence of identical doubles of significant others or of oneself or of both," [23, p. 975] though the delusion that a double of oneself exists is not necessarily considered to be part of the Capgras phenomenon.[8] Others favor extending the definition from those who report the existence of *exact* doubles to include cases in which the patient reports substitution but can identify supposed differences in physical appearance or personality between original and imposter.[8, 24] Finally, although the delusion is most commonly thought to involve people important to the patient, others substantially less intimately involved in the patient's life may be subjects of Cap-

gras delusions, as well.[8] Similar variability exists with clinical description of other misidentification phenomena.

These definitional ambiguities raise the possibility that without the formulation and testing of operationally defined, unambiguous criteria, interrater agreement as to presence or absence of these delusions might be lower than one might wish. However, the question must remain unsettled, since we are aware of no studies that have measured clinicians' concordance for the diagnosis of Capgras syndrome or any of its less common relatives. At a minimum, such studies would require raters blind to diagnosis, explicit definitions of the syndromes of interest, and statistical correction for chance agreement.

Another potential source of interrater disagreement may be the lack of delimitation of comorbid psychopathology. It seems to be rare for misidentification delusions to occur in the absence of other psychiatric symptoms. In the case of Capgras syndrome, several large compilations of published case histories are consistent in reporting that schizophrenia is the most common diagnosis among Capgras patients (typically found to affect two-thirds to three-quarters of cases) with another 10 to 15 percent of patients being diagnosed with a primary mood disorder. In addition, a few cases have been reported with primary diagnoses of "hysterical psychosis," dissociative disorders, or a variety of other syndromes. Similar rates of diagnoses are seen with other misidentification syndromes.[21,25–28]

Evidence of organic disease is also frequently seen among patients with misidentification syndromes.[21,27] Cortical atrophy is a common finding;[28–30] in addition, cases have been reported in which the disorder has been found associated with meningioma,[31] migraine,[32] subarachnoid hemorrhage,[33] and stroke.[34,35] A wide variety of systemic disorders have also been implicated in specific cases, including infectious diseases, endocrinopathies, and cardiovascular disease.[21,34,36] It has even been reported to occur after myelography or in lithium toxicity.[37,38]

Other evidence for the validity of the misidentification phenomena as distinct syndromes is lacking as well. It appears that course, response to treatment, and outcome of these experiences are highly variable, though (once again) firm conclusions cannot be drawn in the absence of systematic follow-up studies.[39] Similarly, their degree, if any, of familial occurrence is unknown. No specific confirmatory laboratory tests exist, not unexpectedly given the many associated organic conditions that have been reported. Indeed, because of the many conditions (psychiatric and organic) associated with misidentification, a number of authors have pointed out that the phenomenon is better referred to as a *symptom*, rather than a *syndrome*.[3,8,21,23,25,27,40]

Biases and Confounders in Assessment of Violence Potential

Because it is unlikely that misidentification syndromes can be shown to represent valid, distinct psychiatric disorders, the task of determining whether

misidentification syndromes and violent behavior are associated becomes more complex. Rather than simply investigating the relationship between two entities (misidentification syndrome and violence), we must ask a more difficult question: across (or within) diagnostic groups, are patients with misidentification delusions more likely to behave violently than comparable patients without such delusions?

Certainly a number of accounts exist in which patients with misidentification delusions are reported to have threatened, attacked, or even killed the object of their delusions, most commonly family members. While psychodynamic explanations have been offered,[14,40,41] case reports of patients misidentifying and threatening or assaulting utility meter readers,[11] fellow patients, neighbors, and passersby,[12] or even professing affection for the double[17] would seem to pose great difficulty for uncovering shared psychodynamic mechanisms, thus vitiating any claim to specificity of cause.[6,42] Moreover, such explanations suffer from being offered only *post-hoc*, that is, explaining violent behavior in specific cases only after the violence has occurred. We are aware of no prospective evaluations demonstrating the efficacy of such formulations in predicting violent behavior in patients with misidentification delusions or other psychiatric conditions. Indeed, clinicians' ability to predict violent behavior using any criteria is, at best, limited.[43]

Moreover, case reports are well known to be biased in favor of relating unusual and uncommon events.[44] Since the requisite epidemiologic studies have not been done, there is in fact no evidence currently to indicate that the base rate of violent behavior in *unselected* populations with misidentification syndromes is elevated at all. The co-occurrence of misidentification syndromes and violent behavior, if based only on case reports, cannot be interpreted when the number of cases of misidentification syndrome *without* associated violent behavior is unknown. Larger case series suffer from the same defect in that, owing to the rarity of the syndromes, such series must of necessity be highly selected, and are therefore difficult to generalize from.

Selective reporting is not the only potential source of bias. Published cases suggest that patients with misidentification delusions tend most frequently to misidentify family members, and that family members make up most victims of assault by these patients. On this basis one might conclude that the misidentification conveys an increased risk of assault—but, again, such a conclusion cannot be supported without knowledge of the base rate of assault on family members or other significant individuals by psychiatrically ill patients *without* misidentification delusions. Clinical experience indicates that *most* assaults by psychiatric outpatients are on family members or other individuals significant in the patient's life, either because of simple proximity or because the patient is more likely to have and act on negative feelings toward these people.[45-47] They may be more likely to be the object of misidentification delusions for the

same reasons. Thus, an association between misidentification and assault may be an illusory correlation that does not take into account the independent contribution of psychiatric illness without misidentification.

A similar confounding might occur if severity of illness correlates both with presence of a misidentification syndrome and heightened risk for violence. Under such circumstances, the supposed link between violence and misidentification might be simply a reflection of severity of illness, rather than increased dangerousness conveyed by the nature of the delusion.

Psychiatric comorbidity must be taken into account as well. For example, since the majority of reported patients with misidentification syndromes are diagnosed as schizophrenic, the role of coexistent substance abuse—well known to be associated with violent behavior—must be considered, since presence of schizophrenia carries with it a 4.6-fold increase in likelihood of having alcohol or drug abuse on a lifetime basis,[48] and thus might play a role in the development of violent behavior.

In addition to the potential confounding effects of severity of illness and psychiatric diagnosis, the contribution of other factors associated with violence such as head trauma or other coexistent neurologic disease, which are known to be associated with at least some cases of misidentification,[27,42] must also be accounted for. Indeed, with only case reports and highly selected case series to go on, even the roles of demographic factors associated with assaultive behavior such as age, gender, and socioeconomic status cannot be evaluated.[49,50] Lacking this information, the degree (if any) to which a misidentification delusion independently contributes to risk of violence cannot be determined.

One final potential logical error must be mentioned. It may seem intuitively obvious that if a patient both has a misidentification syndrome and behaves violently toward the object of that delusion, the behavior must have been caused by that delusion. Such an assumption may not be automatically questioned, especially since the misidentification phenomena are so rarely identified that the treating psychiatrist may have little firsthand familiarity with them. However, a number of cases have been reported wherein patients either have not assaulted or threatened the object of their delusions, or in which some misidentified people are assaulted and others are not.[12,14,17] Thus, either those patients who became assaultive had some additional feature which promoted violence or lacked some protective factor that would have prevented it. Especially if the misidentification delusion has been present for more than a brief time, the causal efficacy of the delusion is questionable. Without further information, the inference that assaults by patients with misidentification syndromes must have been caused by that particular delusion is clearly not justified. Once again, by not considering the possibility of cases of misidentification without associated violence, we encounter the logical error of *post hoc ergo propter hoc.*

Conclusion

The apparent association between delusional misidentification and violent behavior is but one example of a common dilemma for clinicians. Despite many studies documenting the difficulty of such predictions, mental health professionals nonetheless have an obligation to prevent dangerous behavior on the part of their patients, as far as that is possible. The proliferation of *Tarasoff*-type lawsuits is evidence that such efforts are expected by society.[51-53] If clinicians could in fact accurately identify a group of patients who posed a particular risk to easily identified third parties, it seems clear that failure to act on that information would be subject to criticism and legal action.

Unfortunately, when reviewing the clinical literature on the topic, the unwary reader may be led to believe that patients with delusional misidentification comprise such a group. The selected nature of reported cases, and the general bias toward overreporting co-occurrence of rare events (such as delusional misidentification and violence) tends to strengthen such an impression. This is particularly problematic when such cases are ascertained retrospectively, for example, when an expert is asked to review a case for litigation. Awareness of the clinical reports of violence by patients with misidentification delusions might well strengthen the impression that an important warning sign was missed.[54]

However, given the absence of diagnostic standardization of misidentification phenomena, heterogeneity of associated diagnoses, and relationship to neurologic illness, along with other potential confounding factors, the conclusion that such patients carry some specific risk *solely due to the misidentification* cannot be scientifically justified. Further, current knowledge does not support the conclusion that misidentification delusions should be considered even a marker or risk indicator for violence.

The inferential errors we have pointed out here are not, of course, unique to the misidentification syndromes; rather, they are a threat whenever the expert is requested to given an opinion on causation, particularly cause of rare events. When professional negligence is alleged, establishment of the standard of care is usually based on expert clinical opinion. That opinion should always be based on careful and critical review of current scientific knowledge.

References

1. Christodoulou GN: Syndrome of subjective doubles. Am J Psychiatry 135:249–51, 1978
2. Bick PA: The syndrome of intermetamorphosis. Bibliotheca Psychiatrica 164:131–5, 1986
3. Signer SF: Capgras' syndrome: the delusion of substitution. J Clin Psychiatry 48:147–50, 1987
4. Silva JA, Leong GB, Shaner AL: A classification system for misidentification syndromes. Psychopathology 23:27–32, 1990
5. Silva JA, Leong GB, Longhitano M, Botello TE: Delusion of fetal duplication in a Capgras patient. Can J Psychiatry 36:46–7, 1991
6. Weinstein EA, Burnham DL: Reduplication and the syndrome of Capgras. Psychiatry 54:78–88, 1991
7. Silva JA, Leong GB, Shaner AL: The syndrome of intermetamorphosis. Psychopathology 24:158–65, 1991
8. Spier SA: Capgras' syndrome and the delu-

sions of misidentification. Psychiatr Ann 22:279–85, 1992
9. Weinstock R: Capgras syndrome: a case involving violence. Am J Psychiatry 133:855, 1976
10. Crane DL: More violent Capgras. Am J Psychiatry 133:1350, 1976
11. Romanik RL, Snow S: Two cases of Capgras' syndrome. Am J Psychiatry 141:720, 1984
12. De Pauw KW, Szulecka TK: Dangerous delusions. Violence and the misidentification syndromes. Br J Psychiatry 152:91–96, 1988
13. Fishbain DA: Dangerous delusions: violence and the misidentification syndromes. Br J Psychiatry 152:859–60, 1988
14. Silva JA, Leong GB, Weinstock R, Boyer CL: Capgras syndrome and dangerousness. Bull Am Acad Psychiatry Law 17:5–14, 1989
15. Silva JA, Leong GB, Weinstock R: The dangerousness of persons with misidentification syndromes. Bull Am Acad Psychiatry Law 20:77–86, 1992
16. Rachlin S, Schwartz HI: Unforeseeable liability for patients' violent acts. Hosp Community Psychiatry 37:725–31, 1986
17. Morrison JR: Capgras delusions in a private practice. J Clin Psychiatry 41:355–6, 1980
18. Walter-Ryan WG: Capgras' syndrome and misidentification. Am J Psychiatry 143:126, 1986
19. Fishbain DA: The frequency of Capgras delusions in a psychiatric emergency service. Psychopathology 20:42–7, 1987
20. Keith SJ, Regier DA, Rae DS: Schizophrenic disorders, in *Psychiatric Disorders in America.* Edited by Robins LN, Regier DA. New York, The Free Press, 1991, pp 33–52
21. Robins E, Guze SB: Establishment of diagnostic validity in psychiatric illness: its application to schizophrenia. Am J Psychiatry 126:107–11, 1970
22. Berson RJ: Capgras syndrome. Am J Psychiatry 140:969–78, 1983
23. Todd J, Dewhurst K, Wallis G: The syndrome of Capgras. Br J Psychiatry 139:319–27, 1981
24. Kiriakos R, Ananth J: Review of 13 cases of Capgras syndrome. Am J Psychiatry 137:1605–7, 1980
25. Dohn HH, Crews EL: Capgras syndrome: A literature review and case series. Hillside J Clin Psychiatry 8:56–74, 1986
26. Kimura S: Review of 106 cases with the syndrome of Capgras. Bibliotheca Psychiatr 164:121–30, 1986
27. Forstl H, Almeida OP, Owen A, Burns A, Howard R: Psychiatric, neurological and medical aspects of misidentification syndromes: a review of 260 cases. Psychol Med 21:905–10, 1991
28. Joseph AB, O'Leary DH: Anterior cortical atrophy in Fregoli syndrome. J Clin Psychiatry 48:409–11, 1987
29. Joseph AB: Focal central nervous system abnormalities in patients with misidentification syndromes. Bibliotheca Psychiatr 164:68–79, 1986
30. Joseph AB, O'Leary DH, Wheeler HG: Bilateral atrophy of the frontal and temporal lobes in schizophrenic patients with Capgras syndrome: a case-control study using computed tomography. J Clin Psychiatry 51:322–5, 1990
31. Kim E: A post-ictal variant of Capgras' syndrome in a patient with a frontal meningioma. Psychosomatics 32:448–51, 1991
32. Bhatia MS: Capgras syndrome in a patient with migraine. Br J Psychiatry 157:917–8, 1990
33. Bouckoms A, Martuza R, Henderson M: Capgras syndrome with subarachnoid hemorrhage. J Nerv Ment Dis 174:484–8, 1986
34. Collins MN, Hawthorne ME, Gribbin N, Jacobson R: Capgras' syndrome with organic disorders. Postgrad Med J 66:1064–7, 1990
35. De Pauw KW, Szulecka TK, Poltock TL: Fregoli syndrome after cerebral infarction. J Nerv Ment Dis 175:433–7, 1987
36. Santiago JM, Stoker DL, Beigel A, Yost D, Spencer P: Capgras' syndrome in a myxedema patient. Hosp Community Psychiatry 38:199–201, 1987
37. Fishbain DA, Rosomoff H: Capgras syndrome associated with metrizamide myelography. Int J Psychiatry Med 16:131–6, 1986–7
38. Canagasabey B, Katona CLE: Capgras syndrome in association with lithium toxicity. Br J Psychiatry 159:879–81, 1991
39. Christodoulou GN: Course and outcome of the delusional misidentification syndromes. Bibliotheca Psychiatr 164:143–8, 1986
40. Koritar E, Steiner W: Capgras' syndrome: a synthesis of various viewpoints. Can J Psychiatry 33:62–6, 1988
41. O'Reilly R, Malhotra L: Capgras syndrome—an unusual case and discussion of psychodynamic factors. Br J Psychiatry 151:263–5, 1987
42. Lansky MR: Capgras' syndrome and the significance of delusions. Bibliotheca Psychiatr 164:49–58, 1986
43. Lidz CW, Mulvey EP, Gardner W: The ac-

curacy of predictions of violence to others. JAMA 269:1007–11, 1993
44. Michael M, Boyce WT, Wilcox AJ: Biomedical Bestiary: An Epidemiologic Guide to Flaws and Fallacies in the Medical Literature. Boston, Little, Brown and Company, 1984, pp 23–8
45. Planansky K, Johnston R: Homicidal aggression in schizophrenic men. Acta Psychiatr Scand 55:65–73, 1977
46. Krakowski M, Volavka J, Brizer D: Psychopathology and violence: a review of the literature. Compr Psychiatr 27:131–48, 1986
47. Volavka J, Krakowski M: Schizophrenia and violence. Psychol Med 19:559–62, 1989
48. Regier DA, Farmer ME, Rae DS, Locke BZ, Keith SJ, Judd LL, Goodwin FK: Comorbidity of mental disorders with alcohol and other drug abuse. JAMA 264:2511–8, 1990
49. Messner SF: Research on cultural and socioeconomic factors in criminal violence. Psych Clin North Am 11:511–5, 1988
50. Swanson JW, Holzer CE, Ganju VK, Jono RT: Violence and psychiatric disorder in the community: evidence from the Epidemiologic Catchment Area surveys. Hosp Community Psychiatr 41:761–70, 1990
51. Brizer DA, Crowner ML (eds.): Current Approaches to the Prediction of Violence. Washington, DC: American Psychiatric Press, Inc., 1989
52. Slovenko R: The *Tarasoff* progeny, in Review of Clinical Psychiatry and the Law, Vol. 1. Edited by Simon RI. Washington, DC: American Psychiatric Press, 1990, pp 177–90
53. Beck JC: Clinical aspects of the duty to warn or protect, in Review of Clinical Psychiatry and the Law, Vol. 1. Edited by Simon RI. Washington, DC, American Psychiatric Press, 1990, pp 191–204
54. Bursztajn H, Gutheil TG, Brodsky A, Swagerty EL: "Magical thinking," suicide, and malpractice litigation. Bull Am Acad Psychiatry Law 16:369–77, 1988