

## A Homeless Person With Bipolar Disorder and a History of Serious Self-Mutilation

Cheryl A. Green, M.D.

Walter Knysz III, M.D.

Ming T. Tsuang, M.D., Ph.D.

**T**his case report is presented to highlight the importance of recognizing the warning signs and understanding the risk factors for clinically significant self-mutilation. By recognizing the warning signs and understanding the risk factors, clinicians will be better equipped to treat patients who have a recurrent history of serious self-mutilation.

### Case History

#### Psychiatric History

Mr. A, a 45-year-old, single, Caucasian man who was a patient at our day hospital, is a diagnostically complex patient with a long history of brittle bipolar disorder or, possibly, schizoaffective disorder, bipolar type. Over a period of 21 years, Mr. A has been hospitalized more than 20 times and has spent a total of more than 5 years

of his life in psychiatric institutions. The vast majority of his admissions have been for manic episodes, often with psychotic features. He has had only one documented admission for depression, which, along

---

*“Most of the admissions were precipitated by the discontinuation of his psychiatric medications...”*

---

with one other self-reported episode of depressive symptoms, was early in his clinical course.

What is notable about Mr. A's history is not necessarily his three suicide attempts but his two episodes of serious self-mutilation, which occurred many years apart and under very different circumstances. The psychiatric history that follows will give a broad overview of the course of his illness, with particular focus on his suicide attempts, episodes of serious self-mutilation, and the conditions at the time that these events took place.

Mr. A had his first contact with the mental health system at the age of 24, when he was hospitalized for his first manic episode. He was in the hospital for 1 month and given lithium and haloperidol at first; eventually he was given fluphenazine decanoate on discharge. He was soon readmitted to the state facility for 9 months under the diagnosis of schizoaffective disorder (type not documented), and during this hospitalization he was given trifluoperazine and thioridazine as well as fluphenazine decanoate.

During this second hospitalization, at the age of 25, while he was taking antipsychotic medication, he made his first suicide attempt. He had obtained a pass to attend the wedding of a woman whom he had always wanted to date, and several days after the ceremony he took an overdose (without medical sequelae) of No-Doze and ingested a pint of blackberry brandy. Mr. A stated that he was neither depressed nor manic at that time and that he had been medication compliant while in the hospital. In addition, he denied any recreational drug use before that episode.

Mr. A reported that he eloped from the state hospital and after about 2 months of noncompliance with medication and outpatient treatment became so depressed that he could barely move. It was during this time, at the age of 26, that he tried to commit suicide for the second time by lighting his bed on fire while he was in it. He quickly doused the flames, but, ironically, his apartment building burned down the next day after another tenant fell asleep while smoking. This precipitated Mr. A's first period of homelessness. Mr. A denied recreational drug use or psychotic symptoms before this suicide attempt.

In his 26th year, Mr. A was hospitalized for 1 month at yet another state hospital, this time with a diagnosis of simple schizophrenia, which was treated with trifluoperazine and thiothixene. He eloped from a transitional halfway house and moved to the southeastern United States to live with his mother and stepfather.

He remained out of treatment for about 3 months and was able to find employment as a night-shift janitor. He reported that during that time he was getting very little sleep, feeling “oppressed” by the intense heat, and that there was “no privacy” in his parents' home (manifested by his recollection of his mother walking in on him one day while he was masturbating in his room). Several days after that incident, he told his mother that he wanted to quit his job and move back to New England. Mr. A reported that his mother's response was unsympathetic and that she immediately left the house to go play cards with her friends. He identified her reaction as the precipitant to his most serious act of self-injury.

Mr. A reported that he walked into the kitchen and picked up a knife that his stepfather had been using to cut tomatoes. He took the knife into the bathroom, and, in his words, “I looked into the mirror and prayed for God to forgive me.” He proceeded to inflict a number of wounds on himself, beginning with his right arm. He reported that the first cut severed his hand. A second slash, to his mid-forearm, was reportedly deep enough to leave the distal end of his arm hanging. A third cut to his upper right shoulder was more superficial. He made a fourth wound by stabbing himself in the bladder, then superficially lacerated his genitals and gouged his right leg. Mr. A does not recall feeling any pain while inflicting these wounds. His stepfather, who was home at the time, found him in the bathroom and called paramedics. Mr. A was hospitalized on a medical unit for 3 months, and his right arm was subsequently amputated below the elbow.

When asked about this later, Mr. A was unsure whether he was trying to kill himself at the time.

Mr. A's affective state during this episode is unclear because he has given conflicting reports about it. He said that he was not using recreational drugs and that he just remembered being angry with his mother for making that comment. He denied any gross psychotic symptoms, but it is unclear from the records how disorganized he was at the time of the self-injury. It seems reasonable to suspect the presence of psychotic symptoms at the time of the serious self-injury, however, given that the medication regimen during the hospitalization before and after his auto-amputation included antipsychotics.

Mr. A described his parents as unsupportive during that difficult time, stating that his mother saw him only once or twice during those 3 months. "My mom said that if I had just made one more paycheck I could have returned to New England. I wish that she would have told me that before."

Mr. A saw his stepfather only once during this hospitalization, but during that visit Mr. A told him that all he wanted to do was go to sleep and never wake up. His stepfather reportedly replied, "But I have already spent so much money on you." That was the last time they had any contact with each other. His stepfather died of a heart attack about a month later, while Mr. A was still recuperating from the amputation.

At age 27, Mr. A was transferred from the medical unit in the Southeast to a state hospital in New England. This was his only admission for depression (bipolar type, with psychotic features), and he was given amitriptyline in addition to thiothixine and chlorpromazine. Although compliant with his treatment regimen, while hospitalized he made his third suicide attempt by jumping into a river (without medical consequences). Mr. A could not identify a particular precipitant, but it appears from the record that he was having substantial difficulty adjusting to the loss of his arm. He was discharged after 10 months, but, at age 30, he was readmitted for a manic episode with psychotic features. He later eloped during a snowstorm and became homeless again.

After his elopement, he moved to a major city in New England. During the 7 subsequent years he was never hospitalized, received no psychiatric medication or psychotherapy, and spent only 2 of the 7 years homeless. He was employed for a great deal of the time. He described himself during that period as being "happy and aggressive" and credited marijuana use (about "five joints a day") for his success.

At age 37, several weeks after his promotion to supervisor at his place of work and after an argument with his new girlfriend, Mr. A had his first hospitalization in our facility, which is funded by the Massachusetts Department of Mental Health. This manic episode terminated the 7-year period without psychiatric intervention.

Between the ages of 37 and 45, Mr. A had seven hospitalizations in our institution. The precipitants, presentation, and course of each of these episodes have been remarkably similar. Most of the admissions were precipitated by the discontinuation of his psychiatric medications at the urging of his girlfriend, or, on one occasion, in the context of losing a therapist. He usually presented as floridly manic and quite psychotic by the time he was hospitalized. He usually required an average of 4 months on an inpatient unit to recuperate, but he

had several admissions that lasted longer than 10 months.

Typically, about 10 days after stopping his mood stabilizers and neuroleptics, Mr. A would become extremely manic. He was often found sweeping the streets, directing neighborhood traffic, attempting to organize a rock concert on the sidewalk, or donating his belongings to the poor by throwing them out of the window. At other times the police would find him barricaded in his apartment, walking around nude and quoting scripture.

On initial evaluation, Mr. A would endorse a history of decreased sleep, racing thoughts, feeling "on top of the world," and being able to "do anything, even become President." The records describe Mr. A as having pressured speech, as well as being expansive, irritable, and grandiose. For example, he said he was "the Prince of Peace" and that he would win the Nobel Prize for an AIDS cure.

In the chart he was also reported to be "grossly disorganized with loose associations" and to have paranoid ideation about gay men following him. Mr. A denied a history of auditory hallucinations, but the record indicates that he acknowledged one episode of command hallucinations to hurt his eye. There is no record of his endorsing thought broadcasting or thought insertion. According to the chart, however, he endorsed having ideas of reference for several days, thinking that the staff had planted graham crackers in his room as a sign that he should hurt himself. Hospital stays were typically characterized by his requiring chemical restraints and locked-door seclusion for assaulting staff. With mood stabilizers, neuroleptics, and benzodiazepines on a regular basis, he would gradually become less aggressive and intrusive.

This progress was often interrupted by elopements, multiple 3-day notices that he would sign and then retract, and visits from his girlfriend, described as an untreated mentally ill woman who did not believe in psychiatric medication. She often encouraged Mr. A to discontinue his medications, and she assisted in his elopement from several hospitalizations. During these elopements, he would stop his medications and eventually return to the hospital floridly manic.

It is notable that since the onset of his illness, Mr. A was noncompliant with outpatient treatment and medications until the last several years, when his compliance moderately improved. The seven hospitalizations over this time period were all for manic episodes (the majority with psychotic features) and precipitated by discontinuation of medications, or, once, in the context of terminating with a therapist. Mr. A admitted to becoming attached to his therapists but denied ever stopping medications in response to a change in therapists. When challenged with information from the medical record, he refused to discuss it further, saying, "They must have got it wrong." The only clear reason Mr. A gave for stopping his medications was when he was encouraged to do so by his girlfriend. His medication regimen over the last 7 years has typically consisted of one to two mood stabilizers, an antipsychotic, and a long-acting benzodiazepine.

The most striking feature of Mr. A's course is that he had no reported episodes of self-injury from ages 29 to 44. This mutilation-free period ended, however, in October 1997, when he stuck a thumbtack in his right eyelid more than 50 times. The reported precipitant was that

he had seen an attractive woman in the drugstore and felt guilty about his “lustful thoughts” about her. When asked about this incident, Mr. A replied, “The Bible says that if the eye offends you, then you must pluck it out.” Of note, just 3 days before this event, Mr. A’s psychiatrist of 2 years had terminated Mr. A’s therapy with him because he was changing jobs. Mr. A reported being “a little manic” at this time. He denied recreational drug use and, interestingly, gave variable reports about whether he was having command hallucinations at the time to enucleate himself.

Notably, Mr. A’s two episodes of serious self-injury were quite different. They were separated by a span of many years. His mood was unclear in the first episode and was at least hypomanic in the second. He denied command hallucinations with the attempted auto-amputation (although it is probable that he had at least some level of psychosis at that time), and he likely had psychotic symptoms (possible command hallucinations) when he stuck the thumbtack in his eyelid. During the first episode he was not taking his psychiatric medication and had been out of treatment for several months; the second time he was taking his mood stabilizer and antipsychotic medication and was participating in outpatient treatment. Both episodes were not influenced by recreational drugs, and both were in the context of perceived abandonment: by his mother for being unsupportive and after the loss of the therapist. He reported that both episodes were impulsive and that he has never had a desire for self-injury (other than the suicide attempts and a head-shaving episode) at any other time.

After the attempted self-enucleation, Mr. A was hospitalized for several months on an inpatient unit and then moved to the day hospital program at our facility, where his care was managed in conjunction with his new outpatient providers.

### *Family Psychiatric History*

Mr. A’s second-oldest sister has a history of bipolar disorder and is the only family member, other than Mr. A, who has been diagnosed with a mental illness.

### *Social/Developmental History*

What we know about Mr. A comes primarily from the records of his hospitalizations and through his self-report. Because his family has never been more than peripherally involved in his care, there has been no way to corroborate many of the details about his developmental history that he has provided.

Mr. A was born in 1953, the youngest of six children. The three oldest children were single births; his mother’s fourth pregnancy resulted in nonidentical triplets, of whom Mr. A was the last born. The other two triplets were girls, one of whom died several days after birth due to complications stemming from prematurity.

According to Mr. A, his biological father was a carpet layer who had numerous extramarital affairs. Mr. A’s father left the family soon after he learned of the triplets’ conception, and, although he continued to interact with the older children, he never had any contact with Mr. A, who was raised by his mother and maternal grandfather.

Mr. A’s mother was a nurse and devout Catholic who was described as emotionally unavailable. Mr. A stated, “She told me that she loved me, but she never spent enough time with me because she was always playing

cards.” He felt closer to his grandfather, with whom he engaged in activities such as playing checkers, gardening, and going to church. He described his grandfather as “very peaceful and calm” and as his primary parental figure. The records indicate that Mr. A was an active, outgoing child who did well academically in Catholic grammar school. However, he was also described as an extremely quiet child with a violent temper. With much discomfort, Mr. A himself revealed that his school years were extremely difficult because he had very few friends and was frequently picked on because he was short.

His grandfather died when Mr. A was 10 years old, of what Mr. A described as “old age.” Mr. A’s mother soon married a divorced alcoholic who adopted both Mr. A and his triplet sister. When asked about the impact these events had on him, Mr. A quickly became anxious and disorganized and terminated the interview.

The relationship between Mr. A and his stepfather was tumultuous. Mr. A recalled one incident when he was 10 years old when his stepfather literally dragged him out of a Boy Scout meeting by his hair because Mr. A had not done the dishes yet.

During his high school years, the fighting between Mr. A and his stepfather increased. His stepfather would loudly and frequently belittle Mr. A about his lack of masculinity and the ever-growing length of his hair. Mr. A recalled one tirade in which his stepfather shouted, “It is bad enough that I have to look at your god-damn hair every day, but do I have to do it at the dinner table while I am trying to eat?” After making this statement, the stepfather suffered a nonfatal heart attack and was rushed to the hospital.

During his last 2 years in high school, Mr. A began to use marijuana and LSD on a regular basis. Although he would continue to use drugs intermittently throughout his life, he reported that he was sober at the time of his self-injurious behavior.

After graduation from high school, Mr. A attended a state university on the East Coast where he majored in biomedical research. After a year and a half year there, he reports that he discovered that his roommate, a bowling teammate and friend, was homosexual. This, coupled with the fact that his grades were suffering because he was working long hours at a fast-food restaurant, led Mr. A to transfer to a less rigorous college.

He did well academically at the new college, despite substantial marijuana use, frequently smoking up to 10 joints daily. He eventually graduated *summa cum laude* with a Bachelor of Science degree in business administration. He described these college years as the best in his life “because marijuana gave me a lot of friends.”

After graduation from college, Mr. A worked for a year in a nursing home, where he met and soon became engaged to an environmental services co-worker. They ended up moving to a large city in New England, where he began to work long hours at a fast-food restaurant. It was soon after his promotion to supervisor in the restaurant and his breakup with his fiancée that he had the first of his 20 psychiatric admissions.

### *Treatment Course*

During his day hospitalization, Mr. A continued a regimen of risperidone, divalproex, clonazepam, and benzotropine mesylate. Despite his medication compliance, he was hypomanic for substantial periods of time. This was

manifested by intermittent pressured speech, irritability, grandiosity (planning to launch a singing career or run for lieutenant governor), and hyperreligiosity (with frequent references to, and literal interpretations of, Biblical passages regarding sex, sinning, guilt, and punishment). When discussing religious themes, family, sexuality, and his history of self-mutilation, Mr. A frequently became anxious and disorganized.

He was an active participant in our Life Skills Track, which is composed of groups that focus on interpersonal skills and reintegration into the community. Although he complied with the program, he also frequently requested discharge. The treatment team encouraged a slower pace of transition out of the day hospital, to which he reluctantly agreed. As part of his transition, he worked part-time in the hospital gift shop and attended a community drop-in program. His insight and judgment remained poor, as evidenced by his goal to move to Oregon and grow marijuana.

During this admission he had no episodes of self-injury, but he shaved his head shortly after the case conference. When questioned by staff, he admitted that he was concerned about his "lustful thoughts" and had been thinking of poking his eye out again. He agreed to a voluntary admission to a locked psychiatric unit in the area.

### ***Mental Status Examination During Dr. Tsuang's Interview***

Mr. A was a short, centrally obese, mildly disheveled white man with a right arm hook prosthesis. He was pleasant and cooperative but mildly anxious during the interview. He had a notable coarse, bilateral resting hand tremor and right foot tremor that decreased with intention (this condition has been documented for many years). When questioned about sensitive topics (family, self-injury), his speech became mildly pressured but interruptible. His mood was "depressed," and his affect was mildly euphoric at times. When anxious, he became circumstantial and tangential, with mild disorganization and loosening of associations. He denied active or passive suicidal ideation, homicidal ideation, paranoid ideation, and auditory or visual hallucinations. He had a notable lack of insight into his illness.

## **Discussion**

Suicide, serious suicide attempts, parasuicidal/suicidal gestures, substance abuse, eating disorders, and self-mutilation are examples of self-injurious behavior with which clinicians may be confronted (1). All types of self-injurious behavior represent serious clinical problems, but a review of Mr. A's clinical history illustrates that this type of self-mutilating behavior stands in a class by itself. Our discussion here will focus primarily on self-mutilation because this topic is most relevant to Mr. A's case. Understanding this behavior, recognizing the warning signs, and managing ongoing risk is an important challenge to mental health professionals.

Favazza and Rosenthal (2) defined pathological self-mutilation as "the deliberate alteration or destruction of body tissue without conscious suicidal intent." They categorize self-mutilation into three basic types: major, stereotypic, and superficial or moderate.

Superficial or moderate self-mutilation is a relatively common behavior that clinicians encounter frequently in patients with personality disorders who cut themselves (2). Stereotypic self-mutilation, of which head banging is most common, is most frequently observed in mentally retarded persons in institutions (2). Major self-mutilation, the sort of self-mutilation Mr. A engaged in, is rare (1). Examples include amputation of the limbs or genitals, auto-castration, or self-enucleation (1, 2). This type of self-mutilation tends to be associated with psychotic states and acute intoxication (1–3).

There are many theoretical orientations that clinicians may draw upon when attempting to understand the motivations and meaning behind a self-mutilating act. A thorough review of varying perspectives is beyond the scope of this case conference. However, at least five broad categories should be considered: psychodynamic, behavioral, biological, cultural, and social (4–10). Knowing the idiosyncratic significance of the self-mutilating act to the patient will aid future management and treatment.

However intriguing, theoretical concepts are generally of little value in predicting self-mutilation. Above and beyond understanding and explaining an act of self-mutilation in a particular patient, it is also beneficial to have an appreciation of a patient's specific risk factors for future self-mutilation.

It is generally agreed that psychosis is a major factor in severe self-mutilation (11). Risk factors for severe self-mutilation in psychotic individuals include a history of previous self-mutilation, a dramatic change in body appearance (i.e., a sudden change in the style of clothing or a newly shaved head), delusions (often of religious or sexual content), and preoccupation with religion and sexuality (3, 4, 11). Shortly after the case presentation, the day hospital staff recognized several of these risk factors in Mr. A, most notably that he suddenly shaved his head. When staff confronted him, Mr. A stated that he wanted to poke his eye out because he was again having lustful thoughts about a woman that he had seen in a drugstore.

Command auditory hallucinations have also been suggested as increasing the risk of self-mutilating behavior. A patient who is suspicious of the voices will likely appear agitated and threatened, thereby alerting the treaters (3, 12). However, a patient who trusts the voices may appear relaxed and content and possibly go unnoticed (3, 12). "Those patients showing evidence of command hallucinations from a heavenly or other trusted source (or ideas of reference from the Bible) *may* be at *greater* risk of self-mutilation" (3). The highest risk patient, therefore, may be one who experiences command auditory hallucinations but who is calm in his or her response, indicating trust in the voices and relief at the impending sacrifice of a body part (3, 12).

Finally, anticipated or perceived object loss may also increase the risk of self-mutilation (11). This can be particularly relevant in training institutions, where medical student and resident turnover can occur at regular intervals. Clinicians, therefore, should be acutely aware of losses to



the patient. This includes the rotation of residents in a training institution, a therapist's vacation or graduation, anniversaries, a change in housing, and other transitions. Mr. A had just lost his psychiatrist of 2 years before his self-enucleation attempt.

## Conclusions

The case presented illustrates several risk factors for future severe self-mutilation: 1) history of previous self-mutilation, as shown by Mr. A's right arm self-amputation, 2) psychosis, as shown by his propensity to become psychotic, 3) acute intoxication, as shown by Mr. A's history of substance abuse (marijuana and LSD), 4) dramatic change in body appearance, illustrated by Mr. A's shaving his head, 5) preoccupation with religion and sexuality, as shown by Mr. A's strong religious preoccupations, literal interpretations of the Bible, and profound feelings of guilt about his own sexuality, 6) command auditory hallucinations to harm oneself, as illustrated by variable reports of Mr. A having command auditory hallucinations to hurt his eye, and 7) anticipated or perceived object loss, as shown by Mr. A's act of self-injury after rejection by his mother and one episode of medication noncompliance during provider changes.

In patients with a history of psychosis and major self-mutilation, the priority is to treat the psychosis. Critical examination of the patient's differential diagnosis will aid in optimal long-term management. Mr. A's treatment team has struggled with this issue and has attempted to clarify Mr. A's diagnosis. Cross-sectionally, it is very clear that Mr. A does meet the criteria for bipolar disorder. In order to diagnose schizoaffective disorder, there needs to be evidence of psychosis in the absence of mood symptoms. However, it is uncertain whether Mr. A can be definitively diagnosed as having schizoaffective disorder because he is still hypomanic at baseline. There is no indication in the available records that Mr. A has ever approached an euthymic baseline. Mr. A is disorganized with a chronic course, so the possibility of schizoaffective disorder still needs to be ruled out.

The differential diagnosis should also include chronic psychosis not otherwise specified, substance-induced mood disorder, and borderline personality disorder. Furthermore, given Mr. A's self-mutilation in the context of prominent religiosity, the role of organicity (i.e., temporal lobe epilepsy) should be considered. Our literature search did not reveal evidence of any role for multiple or premature birth in bipolar illness or self-mutilation. The important treatment question is, Can all the clinical features be explained on the basis of one disorder?

When considering a psychopharmacological regimen to treat Mr. A, one must take into account both mood and psychotic symptoms in the context of his history of noncompliance. The record shows that no drug so far has brought Mr. A back to a normal thought process. Clozapine would serve to treat his psychosis, stabilize his mood, and ease his anxiety. This would reduce polypharmacy, which may enhance medication compliance, which has

been a problem for him in the past. Furthermore, relationships are developed in the clozapine clinic, thereby providing a source of ongoing connection. Clozapine had been offered to Mr. A in the past, but he refused because of the required blood draws.

Monitoring the patient's mental status, appearance, and medication compliance is also essential. If a clozapine clinic is not available, the Visiting Nurse Association can provide beneficial assistance to help administer medication, monitor compliance, provide clinical observation, and provide support for regularly scheduled outpatient visits (13).

It is important to ensure that Mr. A is in treatment with a clinician who can establish a long-term relationship with him. Therapy should focus on monitoring the psychosis, managing medications, teaching alternative ways of dealing with anxiety and destructive impulses, and dealing with practical life problems (11, 14). Attention should also be paid to recognizing early warning signs of decompensation (14), and there should be a strong relapse prevention component to his treatment protocol. Finally, the treatment team should be extremely careful when scheduling reductions in his medication. Monitoring for substance abuse and substance abuse counseling should also be integrated into the treatment plan (14).

Pastoral consultation should be considered, particularly for patients with strong religious preoccupations. The focus of these consultations should be to address the harsh religious views often held by these patients (13, 14). Family and community support should be enlisted to monitor and encourage treatment compliance (13, 14). Mr. A has suffered numerous losses and experienced a lack of familial and social support in his life, other than the early relationship with his grandfather. He has no contact with his sister, who recently moved and declined to provide him with her forwarding address. This lack of family structure could very well contribute to his disorganization and lack of compliance. Although Mr. A's family is estranged, attempts to enlist their support should be pursued with cautious optimism. Family involvement, a group home, and meaningful employment should be encouraged as sources of support and empowerment for Mr. A.

Bipolar disorder is arguably one of the most difficult of mental illnesses for intimate relationships. Families must endure episodic and recurrent mood swings and may experience the patient as unreliable and/or unavailable. Furthermore, episodes of mania or depression may threaten the patient's ability to maintain employment and thereby a family's income (15). The percentage of family members estranged from patients with bipolar disorder is unclear but not small. Families can benefit from acknowledgment of their struggles (15), psychoeducation (15) (including family-focused treatment approaches [16, 17]), and support groups, including the National Alliance for the Mentally Ill and the National Depressive and Manic Depressive Association (17).

In conclusion, this case highlights the importance of recognizing the warning signs and understanding the risk

factors for significant self-mutilation. Such recognition and understanding equips clinicians for the treatment of patients with a history of serious self-mutilation.

---

Presented at a clinical case conference at Massachusetts Mental Health Center on May 5, 1998. Received Jan. 24, 2000; revision received May 16, 2000; accepted May 17, 2000. Address reprint requests to Dr. Tsuang, Harvard Department of Psychiatry at Massachusetts Mental Health Center, 74 Fenwood Rd., Boston, MA 02115-6113; mtsuang@warren.med.harvard.edu (e-mail).

Supported in part by NIMH grants MH-41879, MH-46318, and MH-43518 and a National Alliance for Research on Schizophrenia and Depression Distinguished Investigator Award (Dr. Tsuang).

---

## References

1. Hingorani M, Singh A, Williams H: Oedipism and ocular self-mutilation. *Irish J Psychol Med* 1995; 12:144–146
2. Favazza AR, Rosenthal RJ: Diagnostic issues of self-mutilation. *Hosp Community Psychiatry* 1993; 44:134–140
3. Shore D: Self-mutilation and schizophrenia. *Compr Psychiatry* 1979; 20:384–387
4. Favazza AR: Why patients mutilate themselves. *Hosp Community Psychiatry* 1989; 40:137–145
5. Feldman MD: The challenge of self-mutilation: a review. *Compr Psychiatry* 1988; 29:252–269
6. Carr EG: The motivation of self-injurious behavior: a review of some hypotheses. *Psychol Bull* 1977; 84:800–816
7. Favazza AR: The coming of age of self-mutilation. *J Nerv Ment Dis* 1998; 186:259–268
8. Greilsheimer H, Groves JE: Male genital self-mutilation. *Arch Gen Psychiatry* 1979; 36:441–446
9. Matson JL: Self-injury and its relationship to diagnostic schemes in psychopathology. *Appl Res Ment Retard* 1986; 7: 223–227
10. Martin T, Gattaz WF: Psychiatric aspects of male genital self-mutilation. *Psychopathology* 1991; 24:170–178
11. Sweeny S, Zamecnik K: Predictors of self-mutilation in patients with schizophrenia. *Am J Psychiatry* 1981; 138:1086–1089
12. Shore D, Anderson DJ, Cutler NR: Prediction of self-mutilation in hospitalized schizophrenics. *Am J Psychiatry* 1978; 135: 1406–1407
13. Tobias CT, Turns DM, Lippmann S, Pary R, Oropilla TB: Evaluation and management of self-mutilation. *South Med J* 1988; 81:1261–1263
14. Kennedy BL, Feldmann TB: Self-inflicted eye injuries: case presentations and literature review. *Hosp Community Psychiatry* 1994; 45:470–474
15. Moltz DA: Bipolar disorder and the family: an integrative model. *Fam Process* 1993; 32:409–423
16. Milkowitz DJ, Frank E, George EL: New psychosocial treatments for the outpatient management of bipolar disorder. *Psychopharmacol Bull* 1996; 32:613–621
17. Lefley HP: Book review, DJ Milkowitz, MJ Goldstein: *Bipolar Disorder: A Family-Focused Treatment Approach*. *Am J Psychiatry* 2000; 157:657–658