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Clozapine for self-injurious behavior in individuals with borderline personality disorder

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Abstract: Prior reports suggest that clozapine can markedly reduce aggression and self-injurious behavior in patients with borderline personality disorder (BPD). We present a series of four patients with BPD and persistent self-injurious behavior treated with clozapine at a state psychiatric hospital. After treatment with clozapine these patients ceased self-injurious behaviors and aggression, and no longer required intensive levels of observation or restrictive procedures. All were successfully discharged from the hospital soon after initiation of clozapine. Clozapine appears to be efficacious in the management of chronic suicidality, self-injurious behaviors and aggression in patients with severe BPD.

Keywords: Borderline personality disorder, suicide, aggression, clozapine

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Introduction

Borderline personality disorder (BPD) is characterized by chronic instability of affect and interpersonal relationships, and recurrent suicidal or self-injurious behavior. BPD affects approximately 1–2% of the general population and up to 20% of psychiatric patients [Gunderson, 2008]. Approximately 1 in 10 individuals with BPD dies by suicide [Paris and Zweig-Frank, 2001]. Suicidal or self-injurious behaviors in individuals with BPD often result in recurrent, costly and prolonged hospitalizations.

Clozapine decreases aggressive [Krakowski *et al.* 2006] and self-injurious [Meltzer *et al.* 2003] behaviors in individuals with schizophrenia. Frankenburg and Zanarini reported improved functioning and reductions in aggressive and self-injurious behaviors in 15 individuals with BPD whom they treated with clozapine; moreover, these individuals chose to continue treatment with clozapine despite troubling side effects [Frankenburg and Zanarini, 1993]. Benedetti and colleagues noted reduced aggressive and self-injurious behaviors and improved functioning in 12 individuals with BPD treated with clozapine [Benedetti *et al.* 1998]. Chengappa and colleagues noted fewer incidents of self-mutilation and injuries against staff and

peers, and decreased need for seclusion and restraint in seven chronically hospitalized women with severe BPD; four of the seven were released from the hospital and the remaining three achieved higher levels of freedom in the hospital [Chengappa *et al.* 1999]. Parker was able to discharge seven out of eight chronically hospitalized self-injurious individuals with BPD after treating them with clozapine, saving Ohio more than US\$36,000 per patient per year [Parker, 2002]. Numerous other case reports document comparable dramatic therapeutic benefits for similar severely ill individuals [Ferreri *et al.* 2004; Vohra, 2010; Swinton, 2001].

We present a series of four state-hospitalized patients with severe BPD treated with clozapine to manage recurrent suicidal and self-injurious behavior.

Case 1

Ms A is a 27-year-old woman with BPD and a longstanding history of suicide attempts, self-injury and multiple psychiatric hospitalizations, admitted after being found on a bridge stating she intended to jump and end her life. This occurred shortly after her release from another hospital where she had been admitted after slashing her

wrists. Ms A's first hospitalization occurred at age 16 after she overdosed on pills; she had approximately nine lifetime admissions. Her first instance of self-injury (cutting and burning herself) occurred at the age of eight.

Ms A endorsed suicidal intent consistently throughout the first weeks of her hospitalization. She had several episodes of cutting herself and assaulting other patients, requiring manual holds and seclusion. On one occasion she was found with a bed sheet tied into a noose with a plan to hang herself. She required 1:1 observation by staff for a duration of eight weeks. Antidepressant and mood-stabilizing medication provided no benefit.

Clozapine was initiated and brought to 150 mg daily (blood level 190 ng/ml). After 3 weeks of clozapine treatment, Ms A reported significant improvement in mood and anxiety, and decreased frequency and intensity of suicidal thoughts; 1:1 observation was discontinued 4 weeks after initiation of clozapine. After clozapine, Ms A had only one instance of aggression and one instance of self-injury. She was ready for discharge 7 weeks after starting clozapine and has not been readmitted to the state hospital since.

Case 2

Ms B is a 41-year-old female who was admitted after she cut her neck with a knife in a suicide attempt. Ms B has had approximately 15 hospitalizations over the prior 20 years, with multiple suicide attempts and self-injurious episodes in that time. She has overdosed on medications, made deep cuts to her body requiring surgical intervention and has a history of head banging.

Ms B required 1:1 observation on admission due to her repeated self-injurious actions. She had frequent instances of head banging and was aggressive towards staff members. She denied any psychotic symptoms during this hospitalization. She required numerous manual holds and required four-point restraints on eight separate occasions. The patient had only a modest response to antipsychotic, antidepressant and anti-anxiety medications.

Ms B was started on clozapine. The dose was brought to 400 mg daily (clozapine level 208 ng/ml). One week after clozapine was initiated there was a noticeable decline in Ms B's level of aggression and agitation; 2 weeks following initiation of

clozapine, 1:1 observation was successfully discontinued. There were no holds, seclusions or restraints required after approximately 1 week of clozapine therapy. Ms B was discharged from the hospital 1 month after clozapine was initiated and she has not been readmitted to a state facility in over one year.

Case 3

Ms C is a 32-year-old woman with a history of BPD and depression who was admitted to the state hospital for the third time in one year after she attempted suicide by overdose. Ms C's first suicide attempt was at the age of 25, and she has had approximately 10 hospitalizations since that time. She also had a significant history of cutting herself. Her prior medication trials included antidepressants, mood stabilizers, anxiolytics and quetiapine.

On admission Ms C was placed on 1:1 observation secondary to ongoing suicidal thoughts and desire to harm herself. Given her long history of cutting, ongoing desire to commit suicide and frequent subsequent hospitalizations, clozapine was started and titrated to a final dose of 200 mg daily (clozapine level 312 ng/ml).

After clozapine was initiated, self-injurious episodes decreased. The patient's mood improved and she no longer had intense suicidal thoughts; 1:1 observation was discontinued three weeks after initiation of clozapine and the patient was discharged from the hospital one week after that. Ms C has not been readmitted to a state psychiatric hospital since her discharge 8 months ago.

Case 4

Ms D is a 27-year-old woman with a history of BPD admitted with thoughts of killing herself by running her car off the road; this was her third admission in 3 months. Ms D began cutting herself at the age of 14. Of note, her identical twin also had BPD and committed suicide.

On admission, Ms D continued to report a desire to harm herself during the first weeks of her hospitalization. Clozapine was suggested after the patient had gone several weeks without notable clinical improvement, with ongoing suicidality and self-injurious behavior. The dose was titrated to 200 mg daily (blood level was 161 ng/ml). The patient's last self-injurious episode occurred 3

weeks after initiation of clozapine. She reported much improved mood and lower anxiety. She no longer had thoughts of killing herself. Approximately 5 weeks after initiation of clozapine, she was discharged and has not been readmitted to the state hospital since.

Discussion

These cases reveal important findings completely consistent with the available literature regarding the effect of clozapine in nonpsychotic, self-injurious patients with BPD. First, the decrease in self-injurious behavior is striking and obvious. Second, the effect is apparent within the first 2 weeks of treatment. Third, patients report marked reductions in misery; they perceive clear benefit. Fourth, restrictive procedures are markedly reduced. Fifth, cost savings in terms of staffing and readmissions are substantial.

Clozapine is not a treatment approved by the US Food and Drug Administration (FDA) for BPD. Recent Cochrane reviews and National Centre for Clinical Excellence (NICE) guidelines suggest that the various nonclozapine medications commonly prescribed for individuals with BPD have little if any therapeutic effect [Stoffers *et al.* 2010; NICE, 2009]. The approach taken in these reviews does not consider case series or case reports. Case series and case reports are also evidence-based and this type of evidence is critical where a therapeutic gap exists, such as in this patient population of severe personality disorder. The American Psychiatric Association practice guideline for borderline personality disorder mentions clozapine as a treatment that could be used when other treatments fail [Oldham *et al.* 2001]. We believe that clozapine offers considerable benefit to severely ill self-injurious patients with BPD and should be considered for appropriate candidates. In our experience, approximately 75% of such patients treated with clozapine respond favorably.

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Conflict of interest statement

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