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Scientific Research

Broader Role for Antipsychotics in the Treatment of Obsessive Compulsive Disorder and Schizophrenia—A Malaysian Case Series

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Abstract

Obsessive compulsive disorder (OCD) and schizophrenia have been considered to be variants of the same disorder. At the advent of psychiatry, there was a distinction between neurotic, mood disorders and psychotic disorders. As perceptions and thoughts evolve in this dynamic field, there has been a paradigm shift in the way these disorders are being perceived. Of particular interest is that concerning OCD and schizophrenia. In a much anticipated and very welcomed move, DSM V has now included delusional beliefs as a specifier of OCD. However the much spoken about schizo-obsessive syndrome is yet to be explored and addressed. Recurrent and intrusive thoughts, impulses and images are key experiences seen in OCD. How we differentiate these vivid images from visual hallucination is a question yet to be answered. The following case series is an example of how difficult the boundaries between severe OCD and schizophrenia can be, and the promising usage of atypical antipsychotic in controlling obsessive compulsive symptoms. Whether untreated OCD is a significant prodromal symptom of schizophrenia, a subtype of schizophrenia or an initial indicator of various syndromes, remains to be seen, depending on environmental effects on the neuroplasticity of the mind and brain. The cases discussed will highlight the role of antipsychotics in patients diagnosed as having OCD, and gives strength to the idea that perhaps antipsychotics should be used more liberally in the treatment of OCD in schizophrenia. Here, we present a case series to show the use of atypical antipsychotics as monotherapy or augmenter in quelling obsessive-compulsive symptoms in patients who fulfilled the DSM V criteria for both schizophrenia and OCD. The efficacy of antipsychotics in reducing OCD symptoms in psychotic patients, as shown in this case series, contributes to the body of evidence that OCD and schizophrenia are really spectrum disorders with a common denominator. It is hoped that this exciting finding will lead to a

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paradigm shift in the usage of antipsychotics in OCD and eventually change how this disease is viewed and treated.

Keywords

Antipsychotics, Obsessive Compulsive Disorder, Schizophrenia, Monotherapy

1. Introduction

It is interesting to decipher the link between OCD and schizophrenia. In earlier classifications, OCD was categorized under "anxiety disorder". However, reflecting a paradigm shift, DSM-V has reclassified OCD under "obsessive-compulsive and related disorder" [1]. It is controversial that the latest classification does not include a specifier for schizophrenia. It does, however, include a specifier for delusional belief. In these four cases, there is a link between the development of OCD and schizophrenia as all of our patients fulfilled the diagnostic criteria for both OCD and Schizophrenia.

The existence of the so called "schizo-obsessive" disorder has been postulated for the past decade or so but has never been properly classified [2] [3]. This is understandable as there is a difficulty in distinguishing OCD with poor insight and OCD with delusional belief, particularly that which may point towards a more holistic diagnosis of schizo-obsessive disorder [4]-[6]. Once the schizo-obsessive disorder is accepted as a clinical entity, this will create new vigour into definitive pharmacological treatment of this disorder and promote the possible usage of antipsychotics as a monotherapy agent and at the same time broaden the usage for antipsychotics in OCD for not only treatment resistant cases but regular cases. The early usage of antipsychotics in patients who fit into the diagnostic category of "schizo-obsessive" syndrome might lead to a decrease in OCD symptoms.

The objective of this case series is to demonstrate that earlier and broader usage of antipsychotics in patients with OCD and schizophrenia may be beneficial and this may in turn give strength to the idea that these two disorders are indeed of the same spectrum.

1.1. Case 1

A 25-year-old Chinese lady, with an underlying OCD diagnosed one year ago, required acute psychiatric treatment because of compulsive hand washing and refusal to talk for 3 days. She was referred for acute in-patient care from a psychiatrist because of suspected Serotonin Syndrome due to the high doses of serotonin enhancers. She was then on sertraline 150 mg, escitalopram 20 mg and fluvoxamine 100 mg. She was relatively well until 6 months before admission, when she had to defer her studies because of her worsening hand washing compulsion and behaviour. For the past two weeks, she had difficulty sleeping and had only been able to sleep at four in the morning. During this hospitalization, she talked very minimally and spent most of her time staring at the ceiling. There were sporadic episodes where she exhibited disorganized behaviour such as smiling inappropriately, talking to herself, grimacing and gesticulating. At times she jumped off her bed without reason. Besides that, she started ruminating before she ate. She believed that Satan was under her pillow after her father put Buddhist prayer chants under her pillow. She also heard a voice speaking to her. The voice "haunts" her, but did not give specific instructions. She was subsequently put on olanzapine 10 mg daily. All antidepressants were withheld. By the 1st week, her hand washing frequency, hallucinations and delusions improved. She had very poor insight and rationalized her behaviour and preferences as very practical practices. A week after she was discharged, she was back in medical school. However she had two isolated episodes of delusions of reference. The first episode was in a restaurant where she felt people were talking about her. The second episode was in the clinic when she began singing at the lobby and got violently upset when people smiled at her. In psychological rehabilitation, she now participates in all the activities and feels she is getting better. After one month of olanzapine 10 mg daily, her hallucinations, delusions and hand washing compulsions were gone. She continued to show improvement with only the antipsychotic. Her insight had improved significantly. Six months after first contact with us, she is now functioning in full remission with only olanzapine. Her insight is now very good and she remains highly motivated to complete her degree.

1.2. Case 2

A 36-year-old Chinese lady, diagnosed in the past as having schizophrenia was admitted in the psychiatric ward due to poor sleep for six months and excessive hand washing which started 2 years back, worsening over the past two months. In the past months, she stayed awake for thirty hours a day for most days in a week. For the past six months, she became increasingly suspicious of the people around her, particularly her parents, and had poor concentration. She felt that washing dishes is a sign of dislike towards her and sometimes walked softly so that people will not hear her coming. She also felt that everyone was talking about her or referring to her, and that everyone was able to read her mind. She was first diagnosed with schizophrenia ten years ago when she presented with negative symptoms, agitation and suicidal ideation. It started when she became depressed after she broke up with her first boyfriend. In the following years, she has been involved in a series of relationships, all of which failed. 10 years into her illness, she became obsessed with making bookmarks and made close to 4000 bookmarks, all of which are unsold. Around the same time, her excessive hand washing started. She was started on escitalopram. This compulsion to wash hands had worsened over the last six months prior to this admission. At times she spent up to five hours in the toilet washing her hands. During this current admission, she was noted to be very manipulative, guarded and suspicious. She was started on olanzapine and sertraline during this admission. She had poor insight and blamed her parents for her poor health. She attributed coarse skin of her hands to food allergy, though it was obvious that her skin problem was contact dermatitis from detergent usage. Risperidone 1 mg bd was added to her regime and it was noted that her hand washing decreased with the commencement of risperidone. She was eventually discharged reasonably well with intra-muscular paliperidone 100 mg 4 weekly and sertraline 200 mg od. Her OCD symptoms improved tremendously but her persecutory feelings towards her parents remain.

1.3. Case 3

A 15-year-old boy with an underlying OCD for 2 years was brought in by police escort because he refused to come out of his father's car for 10 days. He only left the car to use the toilet facilities at home. One week prior to admission he began to show disorganized behaviour such as demanding that his mother repeatedly turn the car engine on and off until he felt calm and insisted that his mother threw away the plastic bags that he had filled up with his urine. He was first seen by a psychiatrist at the age of 10 due to frequent washing of his hands, with each session lasting more than 30 minutes. He also spent as long as 3 hours in the bathroom bathing. Subsequently, he was diagnosed with OCD but treatment was not started then as he was young and symptoms were manageable. Currently, he does not have any delusion, hallucination or suicidal ideation. He comes from a small family of 3 siblings but has a poor relationship with his father. He described his father as being a very strict person and short tempered. During this admission, he was quiet and did not respond to questioning. He denied having any hallucinations or delusions but kept mostly to himself. The nurses however reported that he frequently appeared to be talking to somebody even when he was alone. Although he seemed to have psychosis, he never admitted to this experience. He was started on escitalopram 10 mg od and lorazepam 1 mg bd. Later on, risperidone 1 mg bd was added to his treatment regime as his symptoms were not resolving. The eventual addition of risperidone made a significant improvement in his symptoms, particularly the hand washing. The eventual diagnosis on discharge was OCD with the differential diagnosis of schizophrenia.

1.4. Case 4

A 25-year-old man, with a known case of schizophrenia for the past 4 years, was admitted to the psychiatric ward because of aggressiveness towards his parents. He had hit his mother and father on the head several times. He said that he felt a compulsion to behave in this way because he was angry towards them. His mental illness first started at the age of 20 when he was initially diagnosed as having recurrent and intrusive impulses to hit people. His reason was that he had to hit them before they harmed him. A diagnosis of schizophrenia was eventually made and he was started on intramuscular palliperidone, olanzapine and lorazepam. He began seeking opinions from numerous psychiatrists all of whom agreed that he had OCD as well. He was then prescribed clomipramine 100 mg daily, sertraline 10 mg daily, olanzapine 5 mg daily and 1mg of lorazepam for sleep. Over the last one year he developed the delusions of reference and persecution. In fact, during this admission, he had begun to have delusions of persecution as he felt his college mates were calling him extremely derogatory and

rude names. He continued to feel the urge to hit anyone near him before they hit him. He is currently on olanzapine 5 mg od, sertraline 150 mg od, clonazepam 1 mg on, perphenazine 4 mg bd and asenapine 10 mg bd. His obsessive symptoms reduced when the olanzapine was increased to 10 mg daily. Currently, in a psychological rehabilitation centre, he continues to show improvement with strict behavioural modification.

2. Discussion

OCD has been reported to be a common co-morbidity in schizophrenia which adversely affects patient outcomes. Regardless of the cause-effect factor, both these conditions seem to co-exist with each other at some point or the other. In a related study, the investigators set out to determine the rate of OCD in patients with first-episode schizophrenia. They found that 14% of 50 Schizophrenic patients screened met the diagnostic criteria for OCD. They also went on to conclude that OCD is relatively frequent in patients with first-episode schizophrenia and may have a protective effect on some schizophrenic symptoms [7]. Another study involving 50 adolescent patients with either schizophrenia or schizoaffective disorder showed that 26% of them met DSM IV criteria for OCD [8]. Byerly, M., *et al.* assessed one hundred schizophrenic or schizoaffective patients and found that nearly one third of them exhibited clinically significant obsessive-compulsive symptoms. They also found that the obsessive-compulsive symptoms began concurrently with or after the onset of the psychotic disorder [9]. Faragian, S., *et al.* analysed 133 patients who met DSM-IV criteria for both schizophrenic disorder and OCD. They found that in 48% of patients, obsessive compulsive symptoms (OCS) preceded the first psychotic symptoms and only 27% had OCS post psychotic symptoms. In 24% of the patients, both OCS and psychosis occurred simultaneously [10].

Recognizing the presence of psychotic symptoms in OCD patients and vice versa alters treatment options, especially when it comes to augmenting medication. In all of the cases above, antipsychotics were used together with Selective Serotonin Reuptake Inhibitors (SSRIs), resulting in positive results in reduction of OCD symptoms. In fact, antipsychotics are one of the most common augmenters used in treatment of OCD, as illustrated by a study done in 2014. In this study, 361 participants reported taking medication; 77.6% were taking a selective serotonin reuptake inhibitor; 50% reported use of at least one augmentation strategy. Antipsychotics were most often prescribed as augmenters (30.3%), followed by benzodiazepines (24.9%) and antidepressants (21.9%) [11]. Amongst the antipsychotics, risperidone seems to be more efficacious to treatment resistant OCD, as illustrated by McDougle, C.J., *et al*. In their study, 36 patients who were refractory to SSRI were given a course of risperidone for 6 weeks. They found that risperidone addition was superior to placebo in reducing OCD ($P < 0.001$), depressive ($P < 0.001$), and anxiety ($P = 0.003$) symptoms in the subjects [12]. The patient in case 3 responded well when risperidone was added to his treatment regime. Currently, antipsychotics are used as augmenters in treatment resistant OCD. However, these case series illustrate that when antipsychotics are started earlier on in the treatment regime, patients respond in a more rapid fashion.

However, the question remains whether antipsychotics can be used effectively as monotherapy for the treatment of OCD. Several older case studies have shown improvement in OCD symptoms with antipsychotic use alone. The antipsychotics used in these studies were chlorpromazine, loxapine and haloperidol [13]. These treatment modalities are grossly outdated. A quick search in an online database revealed little recent publication to support the notion that antipsychotic can be used as a monotherapeutic agent. Of note was a study done by Bystritsky *et al*. They showed that olanzapine was significantly superior to placebo in treatment refractory OCD who were unresponsive to SSRIs [14]. McDougle *et al.*, however, suggested that antipsychotic monotherapy is not useful in the management of treatment resistant OCD [15].

Perhaps the key to understanding the role of antipsychotics in OCD patients is to decipher how Clozapine, an atypical antipsychotic induces obsessive compulsive symptoms in its users. De Haan *et al.* noted that more Clozapine treated subjects compared to non-Clozapine treated subjects develop obsessions [16]. Some, such as Poyurovsky *et al.* noted that up to 70% of schizophrenics treated with atypical antipsychotics such as clozapine, olanzapine or risperidone develop secondary obsessive compulsive symptoms (OCS) [17]. There have been more than a few hypotheses to explain this phenomenon. A dysregulation of serotonergic pathways have been attributed to this. Antiserotonergic antagonism at the 5-HT1C, 5-HT2A and 5HT2C receptors induces obsessive compulsive symptoms [18]. Specific genetic properties may also dispose schizophrenic patients to develop secondary OCS during treatment with atypical antipsychotics. For example, one polymorphism has been located in a particular gene (SLC1A1) that encodes the neuronal glutamate transporter, which has been associated with a

genetic risk for OCD [19]. This altered glutamate neurotransmission contributes to obsessive compulsive symptoms in patients, as suggested by Cai, J., *et al*. In their study, they concluded that polymorphisms in the genes that control glutamate transmission, SLC1A1, GRIN2B, and GRIK2, contribute towards clozapine induced OCD [20]. Since deficient serotonin function is important in the pathophysiology of OCD, the dopaminergic and serotonergic regulatory effect exhibited by atypical antipsychotics could explain why it is effective in treatment-resistant OCD.

3. Conclusion

In conclusion, there is still much work to be done in comprehensively defining the relationship between OCD and schizophrenia. If OCD and schizophrenia are indeed a variant of the same disease, it paves the way for broader usage of antipsychotics in the treatment of OCD in schizophrenia. It will also facilitate fresh pharmacological research into development of new antipsychotics that could be used as monotherapy for OCD. Finally, these case studies and the associated references of this article suggest evidence that the schizo-obsessive disorder may be a syndrome that needs to be recognized.

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