

*An Unusual Case of Childhood-Onset Schizophrenia with
Obsessive-Compulsive
Features*

**Um caso atípico de esquizofrenia com início na infância
associado a sintomas obsessivos-cumpulsivos**

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ABSTRACT:

Background Current DSM-IV-TR diagnostic guidelines do not provide for a separate subtype for Schizophrenia with obsessive-compulsive features although obsessive features have been quite commonly described in schizophrenic patients. Obsessive-compulsive symptoms in schizophrenia respond to medications used to treat typical obsessive-compulsive disorder. Childhood Onset Schizophrenia is a very rare psychiatric illness that appears to represent a precocious and severe presentation of schizophrenia-spectrum psychotic disease.

Resumo:

Atualmente DSM-IV-TR não reconhece o quadro clínico de esquizofrenia com características do transtorno obsessivo compulsivo, porém o fenômeno está bem comum em pacientes com esquizofrenia. Sintomas obsessivos-compulsivos em casos de esquizofrenia respondem a tratamento com medicações usadas para tratar transtorno obsessivo-compulsivo. Esquizofrenia infantil é uma doença psiquiátrica rara que representa uma forma mais pesada e precoce de esquizofrenia típica. Apresenta-se aqui um caso inusitado de esquizofrenia infantil com aspectos obsessivos-compulsivos. A paciente feminina de 14 anos foi internada em um hospital psiquiátrico 4 vezes diferentes em um período de 5 meses, queixando-se de alucinações auditivas e visuais, com a tema de conteúdo homicidal, junto com depressão, ansiedade, e pensamentos suicidais. Depois de vários tentativos com remédios diferentes, a paciente finalmente foi estabilizada psiquiátricamente utilizando um antipsicótico atípico e um antidepressivo do tipo SSRI. Esquizofrenia infantil com aspectos obsessivos-compulsivos é uma condição muito rara que pode ser tratada com agentes específicas para os sintomas correspondentes. Resumindo a literatura científica relevante, parece existir bastante apoio para uma categoria clínica diferenciada para esquizofrenia com aspectos obsessivos-compulsivos, na base de diferenças em tratamento, patofisiologia, e prognose em comparação com esquizofrenia típica.

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Case Presentation A 14 year old female patient was hospitalized on an adolescent psychiatry ward on four separate occasions over a five month period for a very unusual constellation of symptoms including longstanding auditory verbal hallucinations with homicidal content, occasional vivid visual hallucinations of morbid scenes of either the patient committing acts of violence

or her relatives being dismembered by gruesome means, along with depressed mood and suicidal ideation. These psychotic symptoms led to the patient occasionally attempting acts of violence towards others or herself, which tended to reduce the anxiety and distress which accompanied these symptoms. After several different medication trials, this patient was finally stabilized on a

on a medication regimen including an atypical antipsychotic and an SSRI antidepressant.

Conclusions Childhood Onset Schizophrenia with obsessive-compulsive features is an extremely rare condition which can respond to treatments for the respective component symptoms. The results of this case, along with a review of recent literature, would tend to provide further support for a formal subtype of schizophrenia-spectrum illness with obsessive-compulsive features which requires special consideration with regard to treatment, pathophysiology, and prognosis as compared with other schizophrenia subtypes.

Childhood-onset schizophrenia, obsessive-compulsive disorder, schizo-obsessive disorder.

Background: Schizophrenia is a relatively common psychiatric disease characterized by the presence of characteristic symptoms of psychosis of longstanding duration which result in severe social dysfunction^{1,2}. According to current DSM-IV-TR guidelines, schizophrenia can be classified into one of several different subtypes: Paranoid type, characterized by delusions and auditory hallucinations; Disorganized type, characterized by disorganized speech and behavior; Catatonic type, where motor symptoms of inactivity or stereotypy predominate; Undifferentiated type, in which the pattern of psychosis does not fit into one of the above categories; or Residual type, characterized by attenuated versions of psychotic symptomatology, usually in a patient with an extensive history of schizophrenia¹. Along with other disorders characterized by psychotic symptoms, 'positive' symptoms of psychosis in schizophrenia can be effectively treated by antipsychotic medications with dopamine receptor D2 antagonist activity².

Researchers have long discussed the relationship between psychosis and obsessional neurosis, but traditionally they have been categorized as being distinct entities^{3,4}. Recently, based upon clinical experience, some investigators have begun to assess for the presence of obsessive-compulsive symptoms in patients with schizophrenia^{5,6}. Originally thought of as one of the "neuroses", obsessive-compulsive disorder (OCD) is typically classified as an anxiety-spectrum psychiatric illness in which psychosis does not generally play a role in the pathology^{1,2}. Obsessions are thoughts, impulses or images that are intrusive, inappropriate, recognized as self-generated, and cause psychic distress to the patient who is experiencing them, where compulsions are repetitive behaviors or mental acts the afflicted individual uses to reduce the anguish often associated with such thoughts¹.

The presence of insight that the obsessions are unreasonable is one of the hallmarks that distinguishes OCD from psychotic illness^{1,5}. However, considerable overlap between both the phenomenology and pathophysiology exists between obsessions, delusions, and hallucinations^{5,7}.

The presence of obsessive-compulsive symptoms in schizophrenia has been variously estimated at anywhere from 3% in early studies⁴, 16-23% in four recent studies of adult schizophrenics⁸⁻¹¹, 26% in one recent study of adolescent schizophrenics¹², or as much as 50% in adult schizophrenics¹³ depending on the study and exact method for estimation used. In several studies that have been published on the subject, obsessive-compulsive symptoms in schizophrenia respond to antidepressant medications indicated for treatment of OCD¹⁴⁻¹⁷.

In contrast to adult-onset schizophrenia, childhood-onset schizophrenia (onset of psychotic symptoms by the age of 12) is extremely rare, with an incidence only one-fiftieth that of typical schizophrenia¹⁸. When severe psychosis does uncommonly present in children, schizophrenia is frequently over-diagnosed in patients that will later receive a definitive diagnosis of bipolar disorder, substance abuse, conduct disorder, borderline personality disorder, or antisocial personality disorder^{19,20}. A substantial body of evidence based upon epidemiology, genetics, neuroimaging, and phenomenology indicates that true COS likely represents a very severe form of schizophrenia-spectrum disorders, which include adult-onset schizophrenia, schizoaffective disorder, and schizotypal personality disorder²⁰. Similar to typical schizophrenia, COS is comorbid with, and preceded by typical neuroanatomical abnormalities which tend to indicate that it too is a disease of aberrant neural development²¹. Early onset schizophrenia seems to be correlated with more severe neurodevelopmental abnormalities, a higher rate of genetic loading for psychotic illnesses, and more severe cytogenetic abnormalities than later onset schizophrenia²². COS is characterized by a similar cluster of symptoms as in adult schizophrenia, including thought disorder, auditory hallucinations, affective dysregulation, and delusions; however, visual hallucinations are much more common in COS²³.

Presented here is a case report of childhood-onset schizophrenia with obsessive-compulsive features. The patient was hospitalized on four different occasions over a 5 month period at the UCLA Neuropsychiatric Hospital (NPH) adolescent ward, and was eventually stabilized on an atypical antipsychotic and a selective serotonin reuptake inhibitor (SSRI). A review of the

relevant literature reveals that substantial support exists for a 'schizophrenia with OCD features' subtype of schizophrenia, which should be considered for future recognition in formal guidelines for psychiatric diagnosis.

Case Presentation: Patient AG, age 14 at the time of first hospitalization, was admitted to the adolescent ward of UCLA NPH after presenting for evaluation to the UCLA outpatient CAPPs program (Center for the Assessment and Prevention of Prodromal States²⁴), having been referred by an outpatient treating psychotherapist. The patient stated that she first began to experience auditory hallucinations (AH) at the age of 9 years old, originally described as "whispering", but gradually becoming stronger over several years, to the point where she heard "a man's voice" telling her to "hurt, kill, or choke" other people, particularly other family members including her mother and older sister. The patient had been receiving high marks in a regular public school in the Southern California area until she was 11 years old. However, subsequent to this the patient's school performance suffered greatly, with the affected individual having to repeat some classes and having great difficulty concentrating on schoolwork. Retrospectively, the patient states that her academic difficulties during this time were due to her concern about her symptoms of psychosis. She stated that had not told anyone about her abnormal perceptual experiences because she was "scared" to tell anyone because she "was afraid they would think that [she is] crazy."

Approximately two years prior to presentation, at the age of 12, the patient began to experience occasional vivid visual hallucinations (VH) of a macabre nature. The patient describes these occurrences as sporadic, lasting only 5-10 seconds at a time, and originally occurring once every month or so, but by the time of first hospitalization occurring up to several times a day. According to the patient, these visions tend to occur when the patient is anxious or angry, particularly in the setting of interpersonal arguments with her family or friends, or in stressful situations at school. The patient has described some of her typical visions as "people hurt and bloody," "me hurting someone [else]," and "a little boy chopped into pieces with a knife." The patient stated that the anxiety and distress these visions caused her could be relieved by cutting the skin on her arms superficially with a sharp object, or acting out on these impulses and physically attacking someone else. The patient states that she did not actually desire to attack or hurt anyone, and thus these experiences had an ego-dystonic quality to them which was extremely upsetting to her. The combination of occasional morbid VH and AH of a homicidal nature had made the patient extremely

anxious and depressed for at least the last year prior to presentation.

The patient lives with her biological parents and an older sister in a stable living situation without economic privation. There is no history of physical, emotional, or sexual abuse. Per patient and family there is no family history of psychiatric illness. She has a 15 year old sister who is developmentally normal and does not suffer from any psychiatric symptoms. Similarly, the patient, her family, and prior medical records all denied any history of substance abuse in this patient. AG was born prematurely at 7 months gestation due to maternal cervical incompetence, but was of normal weight for her gestational age. As an infant, she met all normal developmental milestones at the expected age, and as described above had done quite well in school prior to experiencing symptoms of psychosis. There was no history of seizures, concussion, or head injury per patient, family, and medical records. The patient suffers from mild intermittent asthma, but otherwise has no relevant past medical history. Routine laboratory studies revealed no metabolic or hormonal abnormalities, and her physical examination, including thorough neurological examination was normal for her age on each of the hospitalizations at UCLA. Per report, neuroimaging at the outside hospital where she was first hospitalized was unremarkable.

Due to the patient's worsening school performance and social withdrawal, she was referred to an outside psychotherapist shortly after turning 14, or about six months prior to her first hospitalization. After four months of weekly therapy, the patient finally admitted to her therapist that she was experiencing symptoms of psychosis. The psychotherapist then referred this patient to an outpatient psychiatrist, who saw her several times over a month-long period. She was prescribed aripiprazole for her AH, of which she took only three doses, which was self-discontinued due to intolerable side effects. However, despite this treatment she was witnessed to be acting strangely in response to vivid VH at her school, and was referred for hospitalization for 10 days at an outside adolescent psychiatric ward in the Southern California area, where she was titrated onto a therapeutic dose of risperidone. Of note, during this admission the patient acted out on the command AH to "choke someone" and was found by staff to be attempting to strangle her roommate in the hospital during an argument they were having. After discharge, the patient continued this medication for several weeks as an outpatient, but suffered from the side effects of sedation and poor concentration.

Subsequently, the patient was referred to the UCLA CAPPs program for outpatient follow up, but during the intake interview she expressed some suicidal ideation in the context of experiencing command AH to "hurt" the interviewer, and was therefore admitted to the UCLA NPH for the first admission at there. Upon initial interview, this patient exhibited a normal appearance for her age with fair grooming. Her behavior was calm and cooperative, but guarded when questioned about her symptoms. Her speech was somewhat slowed, and of decreased amount, but generally fluent. Her affect was somewhat blunted, especially when discussing her abnormal perceptual experiences, with a trend towards appearing somewhat saddened, but seemingly inconsistent with the severity of the chronic thought disorder she reported. She denied any abnormalities with her mood, but did admit to feeling "sad" when contemplating the thought that she might try to physically attack someone in her family. In terms of her thought process, it was somewhat concrete with perseverations about the nature of her vivid VH and AH. Her thought content was significant for the AH of a male voice with a "raspy" character with the command to hurt or kill other people, usually of an impersonal nature. As above, she also complained of occasional VH of scenes of "people hurt and bloody" or "myself trying to hurt or kill someone." Due to the fact that she continually stated she did not actually want to hurt anyone else, she was experiencing some suicidal ideation with the thought to hang herself to prevent her from hurting anyone else; however, she denied ever having actually attempted suicide at any time in the past. Otherwise, she generally denied delusions or paranoid ideation, and denied any magical thinking or ideas of reference. Her cognition was intact, and her intelligence was about average for her age.

During the course of her first admission to the UCLA NPH, she was initially cross tapered onto aripiprazole from risperidone, with resolution of the side effects of sedation and lack of concentration, but with the additional side effects of psychomotor agitation and akathisia. This regimen was better tolerated, but did not stop her occasional VH with homicidal intent, and prior to the second admission she had attempted to strangulate her mother in response to a family argument. On the second and third admissions, she was started and stabilized on a therapeutic dose of fluoxetine, which was well tolerated, and provided for a decrease in the quantity of VH and ego-dystonic homicidal impulses. However, she still suffered from some aripiprazole-induced akathisia which caused her significant distress as an outpatient. During the course of her fourth hospitalization, she was cross tapered onto olanzepine

from aripiprazole, which the patient tolerated very well without significant immediate side effects. The patient was discharged with minimal distress from her symptoms of AH, and greatly fewer episodes of VH on a medication regimen of olanzepine and fluoxetine. This regimen also provided for dramatically fewer impulses to cut herself or to harm others, and made her less sensitive to environmental disturbances in the form of arguments or altercations occurring around her. Upon her final discharge, she was able to return home with her family, to return to school at an age-appropriate level, as well as to resume her normal social activities.

Discussion: The very unusual pattern of symptoms that this patient exhibited made for somewhat of a diagnostic dilemma. Based upon the extended period of observation of this patient made possible by successive hospitalizations at the same facility, collateral information obtained from family members, and records from previous inpatient and outpatient treatment, the diagnosis of childhood-onset schizophrenia seems warranted^{1,25}. This patient suffered from AH of a homicidal intent for five years prior to hospitalization, with resultant impairment in her ability to function in school for the last two years. She experienced intermittent VH of grisly scenes and had developed affective blunting at least two years prior to presentation. The patient had suffered from depressed mood for only the year prior to admission, and occasional suicidal ideation for only several months prior to admission, which would tend to exclude the diagnosis of either primary depressive mood disorder or schizoaffective disorder¹. The patient never had any symptoms suggestive of mania per history or during the period of observation, effectively eliminating the possibility of bipolar disorder with mania¹. Neuroimaging, medical history, repeated physical examinations, and laboratory studies did not indicate any medical condition or pervasive developmental disorder which might have contributed to her presentation. Repeated urine toxicology, patient history, and collateral information ruled out the possibility of comorbid substance abuse in this case. Given the presenting symptoms of psychosis, treatment with an atypical antipsychotic was initiated as an outpatient, and continued throughout the five hospitalizations of record, including four at our facility. Atypical antipsychotics have become generally accepted as first line treatments for COS, with typical antipsychotics limited to patients having failed all atypical antipsychotics including clozapine, due to the inherent risk of severe extrapyramidal symptoms in children and adolescents²⁶. Due to difficulties with side effects, the patient did not tolerate therapeutic dosages of either risperidone or aripiprazole, but was able to tolerate olanzepine with good treatment response. In

retrospect, this may have been to the patient's benefit, as there is one case report in the literature of COS with OCD symptoms in which the obsessional symptoms worsened after long term risperidone treatment²⁷. After 5 months of fairly regular treatment with therapeutic dosages of atypical antipsychotics, the patient exhibited better baseline thought organization, more predictable behavior, and reduced preoccupation with her symptoms of AH. However, the patient will have to be carefully monitored as an outpatient for metabolic disturbances given the high rate of weight gain and type II diabetes comorbidity with long term atypical antipsychotic treatment in children as well as in adults^{26,28,29}.

However, several aspects of the patient's presentation were highly unusual in schizophrenia, and were more characteristic of obsessive-compulsive spectrum illness¹. The AH which the patient experienced were always of an ego-dystonic, homicidal nature, and tended to worsen in character and in subjective distress to the patient in the setting of anxiety or anger on the part of the patient. Similarly, the episodes of VH with morbid, homicidal content were always precipitated by verbal altercations or by patient-experienced emotionally stressful situations. The stress and anxiety caused by these experiences could be relieved when the patient performed an act of self harm by cutting her skin superficially. She stated that doing so would "take away the voices." Similarly, on one occasion between hospitalizations, the patient had a verbal altercation with her mother which resulted in the patient experiencing acute agitation, anxiety, and distress. In this setting, the patient experienced a VH of a homicidal scene which precipitated an incident in which she attacked and tried to choke her mother. This action eliminated her subjective distress, and she did not experience further VH during that day.

The patient stated on several occasions that she did not desire to harm anyone (certainly not anyone in her family), and equally distressing to her along with the abnormal perceptual experiences themselves was the thought that she might act out on these impulses. She stated that the ego-dystonic and macabre nature of these intrusive hallucinations contributed to her depressed mood which she experienced, and resulted in suicidal ideation as a potential means to prevent herself from ever harming her family. While she denied any overt behavioral rituals or compulsions, she stated that she actively tried to mentally suppress these abnormal perceptions when they became troublesome, and as discussed above would utilize either self-cutting or physical aggression as a means to control and diminish these intrusive impulses and thoughts in

extreme circumstances. Clearly, therefore, this patient has aspects of obsessive-compulsive symptomatology which contributed to her clinical presentation.

First line treatment for OCD remains antiobsessional agents such as the tricyclic antidepressant clomipramine and SSRIs, along with individual psychotherapy approaches^{2,29}. As discussed above, many investigators have elaborated the treatment success obtained by using antiobsessional agents as adjunctive therapy with antipsychotic treatment in schizophrenia with obsessive features^{6,16,17}. Given this patient's clinical presentation of childhood-onset schizophrenia with obsessive-compulsive features, she was maintained on a therapeutic dose of the SSRI fluoxetine. Fluoxetine has proven effectiveness and tolerability in childhood OCD in several recent studies^{30,31}. Taken together, SSRIs such as fluoxetine have experimental and theoretical support for use in treating the obsessive-compulsive symptoms in this patient with COS.

There are some reports from the literature that clozapine is an effective agent for treatment of both psychosis and obsessions in adult onset schizophrenia with OCD symptoms^{32,33}. Given that this patient has already failed risperidone and aripiprazole due to intolerable side effects, should the patient experience intolerable side effects from olanzapine in the future, clozapine would be a reasonable choice for an alternative antipsychotic agent, with good experimental support for its use in this complicated patient.

Conclusions: COS with obsessive features is extremely rare in the spectrum of overall psychiatric illness, and this presentation with an unusual symptom cluster represents if nothing else an extreme case. However, when attention was given to the phenomenology of the symptoms experienced by this patient, along with a review of the relevant literature, an effective treatment strategy for this patient was able to be elaborated and implemented.

This case report will serve to add to the already large body of literature which documents the phenomenon of obsessive-compulsive symptomatology in a substantial proportion of cases of schizophrenia, both early and late onset. Given that many of these reports show that the obsessive symptoms are responsive to antiobsessional agents, it would seem prudent that care should be taken by clinicians to evaluate all patients presenting with psychosis for OCD symptoms^{6,16,17}.

Several recent clinical reports have been published which discuss possible pathophysiological

differences in COS with obsessive features as compared to typical COS^{34,35}. Iida et al found that in a group of adolescents with premorbid OCD symptoms who later went on to develop schizophrenia, those patients with OCD symptoms were more likely to be male in gender, to have a higher incidence of perinatal complications, to have a higher incidence of neuroimaging abnormalities, and to have a longer prodromal phase than age-matched schizophrenics that did not have OCD symptoms³⁴. Aoyama et al reported on detailed neuroimaging studies of patients with childhood- and adolescent-onset schizophrenia with OCD symptoms as compared with matched typical schizophrenic controls³⁵. Interestingly, they found that early onset schizophrenia patients with comorbid obsessive-compulsive symptoms had a reduced left hippocampal volume as compared to the group without, providing further evidence that the neuropathology in COS with OCD symptoms is distinct from that of typical COS³⁵.

Indeed, taking together the considerable body of scientific literature on the subject of schizophrenia with OCD features, some investigators have been led to propose not just an obsessive-compulsive subtype of schizophrenia, but a new category of "schizo-obsessive disorder" comprising this distinct clinical syndrome, as being separate from schizophrenia^{17,36-38}. Regardless of

whether "schizo-obsessive disorder" merits a separate listing in future versions of formal psychiatric diagnostic guidelines, the weight of the available scientific literature, partially summarized in this report, seems to indicate that schizophrenia frequently is complicated by obsessive-compulsive symptomatology, and that there is evidence that these symptoms may not be responsive to antipsychotic treatment alone. When present, such symptoms should be targeted with antiobsessional agents in conjunction with antipsychotic treatment. While the literature for COS with OCD features is not nearly as extensive, available published reports support the hypothesis that COS in all of its manifestations represents a continuous clinical syndrome with schizophrenia spectrum disorders.

Given the enormous advances in clinical psychopharmacology made during recent decades, psychiatrists have been provided with a vastly expanded armamentarium of tools to treat different manifestations of psychiatric illness. This added capability to treat psychiatric disease comes with the added responsibility to make more accurate diagnoses, in order to better treat patients who suffer from complicated psychopathologies. In this respect, psychiatry will have an ever increasing need to ensure that clinicians are capable of accurate and meaningful diagnostic decision making.

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