A 10-year-old boy with 'voices in my head': Is it a psychotic disorder?

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M, age 10, reports hearing 'voices in my head' that tell him he is going to choke on his food, and this causes fear and anxiety. Is a psychotic illness the correct diagnosis?

CASE Auditory hallucinations?

M, age 10, has had multiple visits to the pediatric emergency department (PED) with the chief concern of excessive urinary frequency. At each visit, the medical workup has been negative and he was discharged home. After a few months, M's parents bring their son back to the PED because he reports hearing "voices in my head" and "feeling tense and scared." When these feelings become too overwhelming, M stops eating and experiences substantial fear and anxiety that require his mother's repeated reassurances. M's mother reports that 2 weeks before his most recent PED visit, he became increasingly anxious and disturbed, and said he was afraid most of the time, and worried about the safety of his family for no apparent reason.

The psychiatrist evaluates M in the PED and diagnoses him with unspecified schizophrenia spectrum and other psychotic disorder based on his persistent report of auditory and tactile hallucinations, including hearing a voice of a man telling him he was going to choke on his food and feeling someone touch his arm to soothe him during his anxious moments. M does not meet criteria for acute inpatient hospitalization, and is discharged home with referral to follow-up at our child and adolescent psychiatry outpatient clinic.

On subsequent evaluation in our clinic, M reports most of the same about his experience hearing "voices in my head" that repeatedly suggest "I might choke on my food and end up seriously ill in the hospital." He started to hear the "voices" after he witnessed his sister choke while eating a few days earlier. He also mentions that the "voices" tell him "you have to use the restroom." As a result, he uses the restroom several times before leaving for home and is frequently late for school. His parents accommodate his behavior—his mother allows him to use the bathroom multiple times, and his father overlooks the behavior as part of school anxiety.

At school, his teacher reports a concern for attention-deficit/hyperactivity disorder (ADHD) based on M's continuous inattentiveness in class and dropping grades. He asks for bathroom breaks up to 15 times a day, which disrupts his class work.

These behaviors have led to a gradual 1-year decline in his overall functioning, including difficulty at school for requesting too many bathroom breaks; having to repeat

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Disclosures
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How would you handle this case?

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the 3rd grade; and incurring multiple hospital visits for evaluation of his various complaints. M has become socially isolated and withdrawn from friends and family.

M's developmental history is normal and his family history is negative for any psychiatric disorder. Medical history and physical examination are unremarkable. CT scan of his head is unremarkable, and all hematologic and biochemistry laboratory test values are within normal range.

Which diagnosis best describes M's condition?

a) unspecified schizophrenia spectrum and other psychotic disorder
b) obsessive-compulsive disorder (OCD)
c) ADHD

Clinical Point

Children's limited cognitive capacity may hinder their ability to identify their symptoms as functionally limiting

The authors' observations

Several factors may contribute to an increased chance of misdiagnosis of a psychiatric illness, especially when evaluating children. Compared with adults, children have a limited ability to explain their symptoms, and given their limited cognitive capacity, they may have difficulty identifying their symptoms as functionally limiting. A comprehensive clinical evaluation, including detailed interviews with the patient, the patient's parents, and if possible, the patient's teachers, is required to assess the child's symptomatology and make an accurate clinical diagnosis.

On closer sequential evaluations with M and his family, we determined that the "voices" he was hearing were actually intrusive thoughts, and not hallucinations. M clarified this by saying that first he feels a "pressure"-like sensation in his head, followed by repeated intrusive thoughts of voiding his bladder that compel him to go to the restroom to try to urinate. He feels temporary relief after complying with the urge, even when he passes only a small amount of urine or just washes his hands. After a brief period of relief, this process repeats itself. Further, he was able to clarify his experience while eating food, where he first felt a "pressure"-like sensation in his head, followed by intrusive thoughts of choking that result in him not eating.

This led us to a more appropriate diagnosis of OCD (***Table 1***,[1] ***page 51***). The incidence of OCD has 2 peaks, with different gender distributions. The first peak occurs in childhood, with symptoms mostly arising between 7 and 12 years of age and affecting boys more often than girls. The second peak occurs in early adulthood, at a mean age of 21 years, with a slight female majority.[2] However, OCD is often under recognized and undertreated, perhaps due to its extensive heterogeneity; symptom presentations and comorbidity patterns can vary noticeably between individual patients as well as age groups.

OCD is characterized by the presence of obsessions or compulsions that wax and wane in severity, are time-consuming (at least 1 hour per day), and cause subjective distress or interfere with life of the patient or the family. Adults with OCD recognize at some level that the obsessions and/or compulsions are excessive and unreasonable, although children are not required to have this insight to meet criteria for the diagnosis.[1] Rating scales, such as the Children's Yale-Brown Obsessive-Compulsive Scale, Dimensional Yale-Brown Obsessive-Compulsive Scale, and Family Accommodation Scale, are useful to obtain detailed information regarding OCD symptoms, tics, and other factors relevant to the diagnosis.

M's symptomatology did not appear to be psychotic. He was screened for positive or negative symptoms of psychosis, which he and his family clearly denied. Moreover, M's compulsions (going to the restroom) were typically performed in response to his obsessions (urge to void his bladder) to reduce his distress, which is different from schizophrenia, in which repetitive behaviors are performed in response to psychotic ideation, and not obsessions (***Table 2***,[3-5] ***page 52***).

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Table 1

DSM-5 diagnostic criteria for obsessive-compulsive disorder

A. Presence of obsessions, compulsions, or both:

Obsessions are defined by:

1. Recurrent and persistent thoughts, urges, or images that are experienced, at some time during the disturbance, as intrusive and unwanted, and that in most individuals cause marked anxiety or distress.
2. The individual attempts to ignore or suppress such thoughts, urges, or images, or to neutralize them with some other thought or action (ie, by performing a compulsion).

Compulsions are defined by:

1. Repetitive behaviors (eg, hand washing, ordering, checking) or mental acts (eg, praying, counting, repeating words silently) that the individual feels driven to perform in response to an obsession or according to rules that must be applied rigidly.
2. The behaviors or mental acts are aimed at preventing or reducing anxiety or distress, or preventing some dreaded event or situation; however, these behaviors or mental acts are not connected in a realistic way with what they are designed to neutralize or prevent, or are clearly excessive.

Note: Young children may not be able to articulate the aims of these behaviors or mental acts.

B. The obsessions or compulsions are time-consuming (eg, take more than 1 hour per day) or cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

C. The obsessive-compulsive symptoms are not attributable to the physiological effects of a substance (eg, a drug of abuse, a medication) or another medical condition.

D. The disturbance is not better explained by the symptoms of another mental disorder (eg, excessive worries, as in generalized anxiety disorder; preoccupation with appearance, as in body dysmorphic disorder; difficulty discarding or parting with possessions, as in hoarding disorder; hair pulling, as in trichotillomania [hair-pulling disorder]; skin picking, as in excoriation [skin-picking] disorder; stereotypies, as in stereotypic movement disorder; ritualized eating behavior, as in eating disorders; preoccupation with substances or gambling, as in substance-related and addictive disorders; preoccupation with having an illness, as in illness anxiety disorder; sexual urges or fantasies, as in paraphilic disorders; impulses, as in disruptive, impulse-control, and conduct disorders; guilty ruminations, as in major depressive disorder; thought insertion or delusional preoccupations, as in schizophrenia spectrum and other psychotic disorders; or repetitive patterns of behavior, as in autism spectrum disorder).

Specify if:

With good or fair insight: The individual recognizes that obsessive-compulsive disorder beliefs are definitely or probably not true or that they may or may not be true.

With poor insight: The individual thinks obsessive-compulsive disorder beliefs are probably true.

With absent insight/delusional beliefs: The individual is completely convinced that obsessive-compulsive disorder beliefs are true.

Specify if:

Tic-related: The individual has a current or past history of a tic disorder.

Source: Reference 1

M's inattentiveness in the classroom was found to be related to his obsessions and compulsions, and not part of a symptom cluster characterizing ADHD. Teachers often interpret inattention and poor classroom performance as ADHD, but having detailed conversations with teachers often is helpful in understanding the nature of a child's symptomology and making the appropriate diagnosis.

Establishing the correct clinical diagnosis is critical because it is the starting point in treatment. First-line medication for one condition may exacerbate the symptoms of others. For example, in addition to having a large adverse-effect burden, antipsychotics can induce de novo obsessive–compulsive symptoms (OCS) or exacerbate preexisting OCS, and selective serotonin reuptake inhibitors (SSRIs) may exacerbate psychosis

Clinical Point

Antipsychotics can induce de novo obsessive-compulsive symptoms (OCS) or exacerbate preexisting OCS

Clinical Point

Secrecy is a key reason for the delay in OCD diagnosis in children

Table 2

Obsessive-compulsive disorder and schizophrenia: A comparison

Feature	Obsessive-compulsive disorder	Schizophrenia
Age of onset	Bimodal onset: 1st peak: Childhood (7 to 12 years of age) with male preponderance 2nd peak: Early adulthood (mean 21 years of age) with female majority	Overall late teens to mid-30s with symptoms mostly arising between the early- to mid-20s for males and in late 20s for females
Symptom	Obsessions, compulsions, or both	Hallucinations, disorganized speech and behavior, negative symptoms, and delusions
Nature of symptoms: Thought content	Aggressive/harm obsessions, preoccupation with symmetry, order, arranging and contamination, forbidden thoughts (sexual, religious, and somatic), and hoarding	Persecutory, referential, somatic, erotomanic, and grandiose and paranoid delusions
Nature of symptoms: Character	Obsessional themes are typically associated with corresponding compulsions. Patients with OCD often consider their obsessions as products of their own thinking	Delusions are not associated with corresponding compulsions. Patients with schizophrenia often believe that there is some external agency or cause to what they are experiencing and thinking
Nature of symptoms: Relationship to repetitive behavior	Typically performed in response to an obsession to reduce distress or prevent a dreaded event. For example, excessive ritualized hand washing, bathing, rubbing; checking doors, stove or homework; tapping, counting, repeating, ordering	Often follow psychotic ideation, and there is harmonization of behavior with delusional beliefs
Family history of psychiatric disorder	OCD spectrum disorders (including skin-picking disorder) and comorbid mood and anxiety disorders	Schizophrenia spectrum disorders, such as schizoaffective disorder or schizotypal personality disorder
Developmental psychosocial functioning	Lack of interpersonal relatedness and social anhedonia are not characteristic of OCD, and social dysfunction is not required for an OCD diagnosis. On the other hand, obsessive-compulsive symptoms can lead to social dysfunction[3]	Lack of interpersonal relatedness and social anhedonia with negative symptoms may also be characteristic of schizophrenia.[4] Social dysfunction is evident early[5]
Course	Waxing and waning	Chronic with remissions
Medication management	Selective serotonin reuptake inhibitors	Antipsychotic agents

OCD: obsessive-compulsive disorder

Source: References 3-5

in schizo-obsessive patients with a history of impulsivity and aggressiveness.[6] Similarly, stimulant medications for ADHD may exacerbate OCS and may even induce them on their own.[7,8]

Besides a limited cognitive capacity, what other factors can complicate the clinical picture in children and adolescents?

a) concealment of symptoms
b) accommodation
c) comorbid conditions
d) all of the above

The authors' observations

Studies have reported an average of 2.5 years from the onset of OCD symptoms to diagnosis in the United States.[9] A key reason for this delay, which is more frequently

Table 3

AACAP Practice Parameter for the assessment and treatment of children and adolescents with obsessive-compulsive disorder

Medication	Preadolescent starting dose (mg/d)	Adolescent starting dose (mg/d)	Typical dose range in mg/d (mean dose)[a]
Clomipramine[b,c]	6.25 to 25	25	50 to 200
Fluoxetine[b,d]	2.5 to 10	10 to 20	10 to 80 (25)
Sertraline[b,d]	12.5 to 25	25 to 50	50 to 200 (178)
Fluvoxamine[b,c]	12.5 to 25	25 to 50	50 to 300 (165)
Paroxetine[e]	2.5 to 10	10	10 to 60 (32)
Citalopram[d]	2.5 to 10	10 to 20	10 to 60

[a]Mean daily doses used in randomized controlled trials
[b]Approved by the FDA for obsessive-compulsive disorder in children and adolescents
[c]Doses <25 mg/d may be administered by compounding 25 mg into a 5-mL suspension
[d]Oral concentrate commercially available
[e]Oral suspension commercially available

AACAP: American Academy of Child and Adolescent Psychiatry

Source: Reference 12

encountered in pediatric patients, is secrecy. Children often feel embarrassed about their symptoms and conceal them until the interference with their functioning becomes extremely disabling. In some cases, symptoms may closely resemble normal childhood routines. In fact, some repetitive behaviors may be normal in some developmental stages, and OCD could be conceptualized as a pathological condition with continuity of normal behaviors during different developmental periods.[10]

Also, symptoms may go unnoticed for quite some time as unsuspecting and well-intentioned parents and family members become overly involved in the child's rituals (eg, allowing for increasing frequent prolonged bathroom breaks or frequent change of clothing, etc.). This well-established phenomenon, termed accommodation, is defined as participation of family members in a child's OCD–related rituals.[11] Especially when symptoms are mild or the child is functioning well, accommodation can make it difficult for parents to realize the presence or nature of a problem, as they might tend to minimize their child's symptoms as representing a unique personality trait or a special "quirk." Parents generally will seek treatment when their child's symptoms become more impairing and begin to interfere with social functioning, school performance, or family functioning.

The clinical picture is further complicated by comorbidity. Approximately 60% to 80% of children and adolescents with OCD have ≥1 comorbid psychiatric disorders. Some of the most common include tic disorders, ADHD, anxiety disorders, and mood or eating disorders.[9]

How would you treat M's OCD?

a) refer him for cognitive-behavioral therapy (CBT)
b) initiate an SSRI
c) recommend a combination of CBT and an SSRI

TREATMENT Combination therapy

In keeping with American Academy of Child and Adolescent Psychiatry guidelines on treating OCD (***Table 3***[12]), we start M on fluoxetine 10 mg/d. He also begins CBT. Fluoxetine is slowly titrated to 40 mg/d while M engages in learning and utilizing CBT techniques to manage his OCD.

continued

Clinical Point

OCD symptoms may go unnoticed as unsuspecting parents and family members become severely involved in the child's rituals

Related Resource

- Raveendranathan D, Shiva L, Sharma E, et al. Obsessive compulsive disorder masquerading as psychosis. Indian J Psychol Med. 2012;34(2):179-180.

Drug Brand Names

Citalopram • Celexa
Clomipramine • Anafranil
Escitalopram • Lexapro
Fluoxetine • Prozac
Fluvoxamine • Luvox
Paroxetine • Paxil
Sertraline • Zoloft

Clinical Point

OCD treatment should continue for at least 12 months after symptom resolution or stabilization, followed by a very gradual cessation

The authors' observations

The combination of CBT and medication has been suggested as the treatment of choice for moderate and severe OCD.[12] The Pediatric OCD Treatment Study, a 5-year, 3-site outcome study designed to compare placebo, sertraline, CBT, and combined CBT and sertraline, concluded that the combined treatment (CBT plus sertraline) was more effective than CBT alone or sertraline alone.[13] The effect sizes for the combined treatment, CBT alone, and sertraline alone were 1.4, 0.97, and 0.67, respectively. Remission rates for SSRIs alone are <33%.[13,14]

SSRIs are the first-line medication for OCD in children, adolescents, and adults (***Table 3***,[12] ***page 53***). Well-designed clinical trials have demonstrated the efficacy and safety of the SSRIs fluoxetine, sertraline, and fluvoxamine (alone or combined with CBT) in children and adolescents with OCD.[13] Other SSRIs, such as citalopram, paroxetine, and escitalopram, also have demonstrated efficacy in children and adolescents with OCD, even though the FDA has not yet approved their use in pediatric patients.[12] Despite a positive trial of paroxetine in pediatric OCD,[12] there have been concerns related to its higher rates of treatment-emergent suicidality,[15] lower likelihood of treatment response,[16] and its particularly short half-life in pediatric patients.[17]

Clomipramine is a tricyclic antidepressant with serotonergic properties that is used alone or to boost the effect of an SSRI when there is a partial response. It should be introduced at a low dose in pediatric patients (before age 12) and closely monitored for anticholinergic and cardiac adverse effects. A systemic review and meta-analysis of early treatment responses of SSRIs and clomipramine in pediatric OCD indicated that the greatest benefits occurred early in treatment.[18] Clomipramine was associated with a greater measured benefit compared with placebo than SSRIs; there was no evidence of a relationship between SSRI dosing and treatment effect, although data were limited. Adults and children with OCD demonstrated a similar degree and time course of response to SSRIs in OCD.[18]

Treatment should start with a low dose to reduce the risk of adverse effects with an adequate trial for 10 to 16 weeks at adequate doses. Most experts suggest that treatment should continue for at least 12 months after symptom resolution or stabilization, followed by a very gradual cessation.[19]

Bottom Line

Obsessive-compulsive disorder may masquerade as a schizophrenia spectrum disorder, particularly in younger patients. Accurate differentiation is crucial because antipsychotics can induce de novo obsessive-compulsive symptoms (OCS) or exacerbate preexisting OCS, and selective serotonin reuptake inhibitors may exacerbate psychosis in schizo-obsessive patients with a history of impulsivity and aggressiveness.

OUTCOME Improvement in functioning

After 12 months of combined CBT and fluoxetine, M's global assessment of functioning (GAF) scale score improves from 35 to 80, indicating major improvement in overall functional level.

Acknowledgement

The authors thank Uzoma Osuchukwu, MD, ex-fellow, Department of Child and Adolescent Psychiatry, Columbia University College of Physicians and Surgeons, Harlem Hospital Center, New York, New York, for his assistance with this article.

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Clinical Point

After 12 months of combined CBT and fluoxetine, M has major improvement in overall functioning