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Obsessive-Compulsive Disorder Triggered by News of Contaminated Food

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TITLE OF CASE

Obsessive-Compulsive Disorder Triggered by News of Contaminated Food

SUMMARY

We present a case of a woman in her early 30s who developed severe obsessive-compulsive disorder symptoms following exposure to news reports about instant noodles allegedly contaminated with a carcinogenic substance. The news triggered an overwhelming fear of ingesting harmful food associated with persistent and intrusive thoughts about contamination in this patient. As a result, she adopted extreme food avoidance behaviours and restricted her oral intake for two weeks, causing significant weight loss and anxiety. Following a visit to her psychiatrist and a prescription for a selective serotonin reuptake inhibitor, her eating behaviours improved, and she could take her food without overwhelming fear. This case shows how OCD may mimic eating disorders and highlights how food-related obsessions can severely impact health.

BACKGROUND

Obsessive-compulsive disorder (OCD) is a clinical syndrome characterised by recurrent and persistent unwanted thoughts, urges, or intrusive images that cause anxiety. Patients often exhibit compulsive behaviours that are typically recognised as excessive and unreasonable, resulting in significant distress and impairment.[1] It affects approximately 1-2% of the global population,[2] and is highly familial.[3] Common themes in OCD include contamination, doubts, symmetry, precision, as well as fears of harm to oneself or others.[4] The separate OCD themes have been divided into ‘contamination’, ‘harmful thoughts’, ‘forbidden thoughts’, ‘symmetry’, and ‘hoarding’ dimensions.[5] In some cases, patients with obsessive thoughts of contamination may restrict their diet, avoiding certain or all items.[6] In this report, we present a case of a patient who experienced obsessive thoughts of contamination, which led to panic attack and resulting in food aversion.

CASE PRESENTATION

A woman in her 30s visited the psychiatric clinic with an inability to tolerate food for two weeks. She had been well until two months before her presentation when she started experiencing repetitive, undesirable, and intrusive thoughts about her food being contaminated. She also began doubting the cleanliness of areas in her home. These thoughts had earlier been triggered after she read the news about one of the instant noodle brands being contaminated with a carcinogenic substance. Over the next several weeks, these obsessive thoughts gradually dominated her mind and made her feel distressed. While she acknowledged that the doubts originated from her mind, she could not control these thoughts despite her attempts to ignore them. She also kept reassuring herself that the instant noodle that she had had was not contaminated, to no avail. The worry about contaminated instant noodles soon generalized to other food types, to the extent that she almost became convinced that any food may harm her and make her sick. As a result of this fear, she began avoiding eating as much as possible. However, if she was starving, she would wash the cutlery and dishes multiple times before using them despite knowing they were clean, as she feared that the cutlery might be contaminated with germs. It would take her about ten minutes to wash each cutlery item. Although she was aware that these washing actions were excessive, she could not stop herself from performing them.

Her condition deteriorated as she developed panic attacks whenever she tried to eat. She described these as episodes of palpitations, shortness of breath, a blank mind, trembling, and having cold hands that occurred abruptly and lasted only for a few minutes. Panic attacks were always triggered by thoughts about contaminated food and cutleries. During her illness, she also had difficulty falling asleep and maintaining her sleep due to obsessive thoughts. This lack of sleep has caused lethargy, leading to decreased engagement in household chores. Moreover, she has lost two kilograms within two weeks duration. Therefore, she preferred staying at home rather than socializing with family members and friends. Nonetheless, she reported that her relationship with her husband was not affected by her condition.

The patient denies persistent worries about another panic attack or its consequences. She also denies that her avoidance behaviour towards food is due to a fear of another panic attack. She does not experience excessive anxiety related to other events or activities, restlessness, irritability, muscle tension, preoccupation with flaws in her physical appearance, intense fear of gaining weight, purging, excessive exercise, or any other substance use. Her mood is normal, and she does not exhibit anhedonia, psychomotor retardation or agitation, feelings of worthlessness or excessive guilt, or suicidal thoughts. The patient also denies taking any other substances or having any other medical conditions.

Within her family, she was not aware of any psychiatric illnesses. However, she often noticed that two of her close family members displaying repetitive behaviours linked to checking and cleaning, yet they never sought any type of treatment. Premorbidly, she displayed a meticulous nature, emphasizing arrangement and orderliness. She characterises herself as a perfectionist, stubborn, and hesitant to entrust tasks to others due to concerns about whether they can meet her expectations.

INVESTIGATIONS

N/A

DIFFERENTIAL DIAGNOSIS

Initially, a differential diagnosis of panic disorder was considered based on the recurrent sudden abrupt onset of autonomic symptoms that she exhibits such as palpitations, shortness of breath, a blank mind, trembling, and having cold hands whenever she tried to eat. Nonetheless, the patient denies having persistent worries about another panic attack or its consequences. She also denies that her avoidance behaviour towards food is due to a fear of another panic attack. Her aversion to food could also align with the diagnostic criteria for avoidant/restrictive food intake disorder. However, it is important to note that in this specific case, her behaviour was driven by her persistent fear of food contamination, in contrast to a lack of interest in eating, food, or avoidance stemming from the sensory qualities of food, as outlined in the DSM-5 TR criteria for avoidant/restrictive food intake disorder. Hence, the diagnosis of OCD was made after ruling out these differential diagnoses.

TREATMENT

During the patient's initial visit to the psychiatric clinic, she was prescribed Escitalopram 10 mg once at night and oral Lorazepam 1 mg three times a day. She could tolerate the treatment well and hence was adherent to it. We gradually increased the dosage of the antidepressant in the subsequent clinic visits. The patient also received psychoeducation and learned breathing and relaxation techniques to manage her panic attacks. Subsequently, we referred her to the clinical psychologist for an assessment and intervention using the cognitive behaviour therapy.

OUTCOME AND FOLLOW-UP

After one week of treatment, the patient reported appreciable improvement in symptoms in terms of her obsessive thoughts. As the thoughts had slightly decreased in intensity, she could tolerate eating a small amount of food. Upon assessment, her belief regarding the contaminated food was not as strong. However, she still experienced obsessional thoughts that the food she was about to eat had toxic substance. Although she was notably anxious during the mental state examination, he was cooperative and there were no intrusive thoughts or compulsive actions. At this point, we increased her Escitalopram to 15mg and reduced Lorazepam to 1 mg twice daily.

During the follow-up appointment two weeks later, her condition improved further. The thoughts lessened, her food intake slowly returned to its previous pattern, and she no longer had panic attacks. The patient continued taking Escitalopram at the same dose until her subsequent clinic follow-ups. At one-month follow-up, she reported having been able to take two meals per day, from the previous one meal. She also reported having 80% reduction in her experience of obsessional thoughts. Unfortunately, she has failed to attend her psychotherapy appointments.

During her most recent clinic appointment, she reported having no obsessions at all after one year of treatment. As a result of her recovery, she had been having good appetite and gained weight. She expressed her interest in tapering off her medications. However, she began doubting whether her diagnosis was right because she felt she responded to fast to the treatment regime. The treating team provided her with reassurance and psychoeducation, and subsequently made shared decision making with her to start taking her off the medications by the end of the year, after she completed her sessions with her psychologist.

DISCUSSION *Include a very brief review of similar published cases*

This case unveils the intriguing complexity of diagnosing a patient who excessively controlled her food consumption. In patients with acute onset of food restriction, mental health practitioners must prioritise a comprehensive and prompt assessment to identify potential psychiatric and medical causes to reduce morbidity and prevent mortality. Early diagnosis of eating disorders is crucial. While anorexia nervosa is ruled out if food restriction is driven by fear of weight gain or body image concerns, ARFID is considered if the avoidance is unrelated to body image but due to fear of adverse consequences (e.g., choking) or sensory sensitivities. Additionally, the patient should be evaluated for electrolyte imbalances and other health risks from inadequate nutrition. A detailed history could help tell us whether food restriction is related to trauma, such as contamination or food poisoning. Lastly, concomitant mood symptoms in a patient with food restriction mean that depression must be ruled out, as patients might reduce their eating due to anhedonia or loss of appetite.

In the present case, the patient also had concomitant obsessions about contamination. Her recurrent thoughts and preoccupations fulfil the criteria for OCD according to DSM-5-TR. OCD can manifest as obsessions, compulsions, or both and often causes distress and disruption in daily life.[1] It is more prevalent in females, traditionally emerging in late adolescence,[4] typically between the ages of 10 and 22; earlier in males and later in females.[6] The age of onset and age at assessment are relevant factors influencing the

comorbidity profile in OCD.[7] However, a recent study indicates an even earlier average age of onset of around 15 years,[8] with instances of OCD developing after the age of 30 being uncommon.[9] The progressively improving understanding of OCD and related disorders as being different from other anxiety disorders has led to the proposition of digital technology use for the assessment and monitoring of OCD symptoms, and therapeutic approaches.[10] Following cognitive behaviour therapy, a high dose of selective serotonin reuptake inhibitor (SSRI) and clomipramine as an option, clinicians may add on another antidepressant.[11] The NICE guideline encourages shared decision-making between the patient and the treating clinician, considering illness severity, patient preference, and comorbid conditions. In their meta-analysis, Bloch et al. (2009) found that higher doses of SSRIs were associated with improved treatment efficacy for OCD symptoms compared to low or medium doses.[12] Similarly, the World Federation of Societies of Biological Psychiatry (WFSBP) also advocates for higher doses of SSRs than the typically recommended by NICE.[13] As opposed to NICE, WFSBP suggests an earlier and broader array of augmentation with antipsychotics. Researchers have also looked into different treatment approaches over time, including deep transcranial magnetic stimulation over the medial prefrontal cortex and anterior cingulate for treatment-resistant OCD.[14]

In a similar case report, Kreipe et al. (2019) described that food aversion and OCD can intersect, revealing a complex connection between these two phenomena.[6] OCD, characterised by distressing, intrusive thoughts and ritualistic behaviours aimed at alleviating anxiety, exhibits diverse manifestations. Individuals grappling with food aversion may develop obsessive concerns regarding food purity, akin to the repetitive thoughts observed in the patient under scrutiny. Consequently, these obsessions can give rise to compulsive actions mirroring the avoidance tendencies seen in food aversion. Beyond shared cognitive patterns, the link between OCD and food aversion extends neurologically. Research shows that both conditions emerge from disruptions within specific neural circuits governing threat perception, anxiety response, and reward processing. Moreover, there are several factors involved in OCD, including serotonin dysregulation and a possible positive link between streptococcal infection and OCD.[15] Toufexis et al. noted that a population infected by Group A streptococcal bacteria develops sudden onset of clinically significant eating restrictions.[16] In their case series, 29 children were noted to have suddenly developed food restrictions, as well as concurrent obsessions about contamination, poisoning, vomiting, or choking. Their report echoes the established paediatric acute-onset neuropsychiatric syndrome/paediatric autoimmune neuropsychiatric disorder associated with streptococcal infection (PANS/PANDAS).[17]

The cognitive-behavioural model supports the heterogeneity of obsessions and compulsions.[18] Similarly, it has been postulated that negative appraisals and over-investment in the ‘feared’ self initiate and maintain obsessional thoughts.[19] As obsessions are ego-dystonic rather than ego-syntonic, patients having them would be distressed, and experience marked anxiety as they were attempting to neutralize their “fear”.[20] As a consequence, the illustrated patient develops panic attacks, leading to having panic disorder as a potential diagnosis. According to a study done in the Netherlands examining the relationship between anxiety symptoms and OCD, symptoms of anxiety are expected during the OCD course. However, they interact through distinct latent factors.[21] Specifically, the prevalence of panic disorder as a comorbid psychiatric condition accompanying OCD can range between 6-22%.[7] Sharma et al. further found that the comorbidity of panic disorder in OCD patients is higher with the older age at assessment.[7] Interestingly, their study noted how OCD severity was significantly associated with lower rates of comorbid panic disorder.[7] Panic attacks are common in the general population and may consist of respiratory and non-respiratory patterns.[22] Other than its typical symptoms, a panic attack can have culture-specific symptoms such as tinnitus, neck soreness, headache, and uncontrollable crying, may also be observed. In the case presented, specific situations such as attempting to eat and contemplating potential contamination of food and cutlery would trigger the patient's panic attacks. This illustrates an expected panic attack, which occurs in response to identifiable triggers. Conversely, panic disorder is characterised by recurrent unexpected panic attacks, which occur without any apparent trigger.[1] The obsessive thoughts have been amplified by the

anticipated panic attacks, precipitating the patient's aversion to food and consequent impairment of her functional capacity.

On the other hand, the food aversion the patient experienced may also appear as an eating disorder, particularly ARFID. In the past, research has demonstrated that two-thirds of people with an eating disorder have OCD.[23] It has been shown that the comorbidity of eating disorders and OCD is mediated via shared neuroticism and perfectionism.[24] Although ARFID is more common among children and adolescents,[25] it is intricately linked and often co-occurs with OCD. Both ARFID and OCD share the presence of anxiety symptoms concerning food. Individuals with ARFID avoid the tastes, smells, or sights of certain foods,[26] and those with OCD attempt to avoid distressing obsessions by employing compulsive acts or mental images. In recent years, a new eating condition called orthorexia nervosa has emerged.[26] Similar to ARFID and other eating disorders, rumination about food is also common in orthorexia nervosa, although the obsessions are related to healthy eating. Therefore, a thorough history-taking must also explore the motivations behind the behaviours of food avoidance.

The treatment for OCD is not without challenges.[27] A significant effect size is found for cognitive-behaviour therapy (CBT) with exposure and response prevention (ERP) in reducing OCD symptoms.[28] While CBT/ERP is recommended for mild-to-moderate OCD and SSRI and CBT is recommended for moderate-to-severe OCD, treatment strategy must also consider the limited resources for CBT delivery.[29] In the illustrated case, given the concern that the patient's food avoidance stems from obsessive thoughts associated with panic attacks, Escitalopram and Lorazepam were prescribed. These medications serve distinct roles in managing OCD with comorbid panic attacks. Escitalopram increases serotonin levels in the brain, effectively reducing obsessive-compulsive behaviours and the frequency and severity of panic attacks. Common side effects of Escitalopram range can be mild, such as nausea, headache, and dry mouth, or severe, such as sexual dysfunction, weight gain, and greater bleeding risk.. However, Escitalopram has the highest selectivity for the serotonin transporter, making the side-effect profile relatively mild in comparison to other SSRIs.[30] is typically started at a low dose and gradually increased to minimise side effects, with full therapeutic effects observed after several weeks. A case series by Zutshi et al. (2007) describes three patients with OCD who responded well to Escitalopram.[31] These observations are in line with the evidence that Escitalopram is effective for OCD.[32]

In contrast, Lorazepam, a benzodiazepine, provides short-term relief from severe anxiety and acute panic attacks. Side effects of Lorazepam include mild effects such as drowsiness, dizziness, and fatigue, and more severe effects like dependence, tolerance, and potential respiratory depression. While Lorazepam offers rapid symptom relief, its use is limited to short-term or as-needed situations due to the risk of dependence and tolerance. Additionally, the patient's adherence to CBT to complement SSRIs must be stressed. Tjelle et al. (2021) demonstrated that participants' adherence to exposure and response prevention correlates with a reduction in obsessive, compulsive, and anxiety symptoms.[33] The intensity and flexibility of CBT doses for OCD have been supported by research. For example, Selles et al. (2021) showed the differences in treatment session utilization levels across CBT participants, suggesting tailoring the doses based on individual needs.[34]

The illustrated patient achieved remission after about a year of pharmacotherapy. This state of remission was established conceptually based on the patient's report of no more than minimal symptoms, or if the residual obsessions, compulsions and avoidance are still present, they are not time-consuming and do not interfere with the patient's daily life.[35] The patient's good insight also plays a beneficial role in OCD severity.[36] Although her illness does not run a chronic course, OCD can be episodic.[37] An early study on remission and relapse patterns in OCD showed that complete remission from OCD is 12%, partial remission is 47%, and relapse is 48%.[38] A recent six-year naturalistic longitudinal cohort study pointed out a 14% long-term full remission rate and that the likelihood of an episodic course remained high even without identified risk factors.[39]

In conclusion, OCD may present with a rare obsession that can mimic eating disorders. A timely determination of diagnosis and the proper treatment can save a patient from further deterioration of health that results from food avoidance and malnutrition.

LEARNING POINTS/TAKE HOME MESSAGES *3-5 bullet points*

- Obsessions around food in patients with OCD share similar principal features of the disorder.
- Food obsession in OCD must be distinguished from eating disorder, as they entail a different management approach.
- Clinicians must perform comprehensive assessments in patients presenting with food restriction or avoidance behaviours to identify underlying conditions, such as OCD triggered by contamination fears, and to prevent malnutrition, exacerbations of anxiety, or other health risks.

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FIGURE/VIDEO CAPTIONS

None.

PATIENT'S PERSPECTIVE

None.

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