Entomophagy and Coprophagy in Undifferentiated Schizophrenia

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ABSTRACT
Coprophagia or the ingestion of feces, considered to be a variant of pica, has been associated with medical disorders like seizure disorders, cerebral atrophy, and tumors and with psychiatric disorders like mental retardation, alcoholism, depression, obsessive compulsive disorder, schizophrenia, schizoaffective disorder, fetishes, delirium, and dementia. But entomophagy or the practice of eating live or dead insects as food by humans has only been reported as part of eating habits by some cultures in the world and not in association with any medical or neuropsychiatric disorders. Till date, there is no report in medical literature of entomophagy as an association with any neuropsychiatric or medical illnesses. Coprophagy and entomophagy has not been together reported as well. We describe the first ever case report of a 19-year-old male patient diagnosed with undifferentiated schizophrenia and associated with both entomophagy and coprophagy. His schizophrenic symptoms, the entomophagic, coprophagic behaviors improved with olanzapine therapy. Entomophagy and coprophagy, two very unusual human behaviors, can be seen in association with schizophrenia.

Key words: Coprophagia, pica, schizophrenia

INTRODUCTION
Coprophagia or the ingestion of feces, in humans has been associated with tumors, mental retardation, alcoholism, depression, obsessive compulsive disorder, schizophrenia, fetishes, delirium, and dementia.[1] Entomophagy or the practice of eating insects as food is also used to describe human insect-eating practices that are common in some cultures in parts of the world. Till date, there is no case report in literature reporting entomophagy in association with any neuropsychiatric or medical illnesses. We describe the first ever case report of a patient diagnosed with undifferentiated schizophrenia associated with entomophagy and coprophagy.

CASE REPORT
A 19-year-old male South Indian patient was brought by his father for urgent psychiatric consultation. Upon assessment, the patient was from a rural setting, educated up to 12th grade in school and was involved in agricultural labor. There was more than one year of insidious onset of symptoms characterized by hallucinatory behavior of talking and laughing to self when alone, disturbed sleep, social withdrawal, and poor occupational functioning. The patient was observed to have been eating his own feces immediately after defecation inside his living room, catching live spiders, moths, frogs, earthworms, crabs and eating all of them without any preparation. In addition, he had ingested feces of goat, cow, dog and the whole of cactus plants.

The patient would explain that he was not any ordinary human being but special and hence eating these unusual matters will not affect his health. The patient was not attending to any of his daily activities...
such as bathing, clothing or toileting well. The patient had expressed delusional beliefs of being followed by someone unknown and that he was not safe even while at home. This was not changing with explanation or protection offered by his father. Gradually, the patient became more socially isolated from family and others and stopped coming out of his room. The patient’s father had taken him to local magical, religious faith healers in temples to heal the problems.

The mental status of the patient during this assessment revealed muttering and smiling to self. The eye contact, rapport was poor and insight into the problems was absent. The affect was flat. There was no other significant medical history and his physical examination was unremarkable. There was no evidence of any mental subnormality and the birth and developmental history was all within normal limits. No family history of any neuropsychiatric illness was present. A definitive diagnosis of schizophrenia of the undifferentiated type (ICD 10) was made by two senior psychiatrists and the patient was admitted in the psychiatry ward. Treatment with olanzapine 5 mg/day at night was initiated along with clonazepam 0.5–1 mg/day. The laboratory tests revealed hemoglobin of 13.3, total count of 9 000, a normal peripheral blood smear, random blood sugar of 94, and CT scan of the brain was normal. In two weeks, improvement was noticed in sleep, appetite, better socialization, and there was no coprophagy or entomophagy noted from day 1 of admission. At a dosage of olanzapine 10mg/day, the delusions completely resolved and the overall condition of the patient improved significantly. Upon request from the father, the patient was discharged from the hospital. On repeated follow-ups, the patient was found to be better with good compliance of the treatment. Few negative symptoms persisted in the form of anergia, avolition and asociality. On the last review, three months after the initial evaluation, the patient continued to maintain the improvement without any repetition of the coprophagic or the entomophagic behaviors.

**DISCUSSION**

On this background, we have attempted to review relevant literature on the association of schizophrenia and coprophagy and entomaphagy. Interestingly, Beck et al.,[1] described a case report and a thorough review of literature of coprophagy in humans and its occurrence in various medical and neuropsychiatric disorders.[2] In modern times, coprophagy is considered as an unusual variant of pica.[2] There is no evidence of beneficial effects of coprophagy in humans[3] and it can lead to poor oral hygiene, chronic gingival infection and chronic lesions on the mucosa and sialadenitis.[4] The search for entomophagy in general revealed a mix of evidence, majority of which highlighted the growing interest of this practice common in some cultures in parts of the world including Central and South America, Africa, Asia, and Australia, but taboo or absent in most societies. Our patient resided in a rural place in South India, where the culture of entomophagy was not practiced.

In our case, there was no evidence of any mental subnormality, other comorbid or any medical illness to explain the association of these unusual eating behaviours with schizophrenia. The improvement in response to antipsychotic treatment provides a lead toward the inclusion of both entomophagy and coprophagy as part of the schizophrenic illness itself. This report raises the question of any phenomenological basis of entomophagy and coprophagy under the current diagnosis and subtype of schizophrenia in both DSM-IV and ICD-10. It also questions the beneficial effects of insect eating in some cultures across the world, due to its association with a mental illness like schizophrenia. However, it is a rare but interesting report in psychiatric literature that one needs to consider in future.

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