

# Cats inside my head! – A Case Report on Delusional Zoopathy

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**Abstract-** Delusional Zoopathy is a disorder of perception alongside a delusion. Patients believe that there is an animal inside their body that they can feel moving inside. Delusional infestation, delusional parasitosis and Ekbom's syndrome are the other names by which it is known. While existing literature reports the condition as a monosymptomatic disorder affecting mainly the skin or the intestines and involving mostly worms or smaller parasites. While both ICD-10 and DSM-5 categorize it under delusional disorders, delusional Zoopathy is yet to be categorized. Here we describe a rare case of delusional Zoopathy occurring secondary to schizophrenia.

**Index Terms-** delusional Zoopathy, schizophrenia, delusional infestation, delusional parasitosis.

## I. INTRODUCTION

Delusional Zoopathy is an unusual and distinctive form of hallucinosis. It takes the form of a delusion while still having a hallucinatory component. Fish exemplifies one such case where the patient is deluded that there is an animal crawling inside his body along with an hallucination where the patient feels it moving inside his body<sup>(1)</sup>. In some cases, it has been found to be associated with an organic disorder. Reports of such cases are scanty across the world. Here we report one such case of delusional Zoopathy in a patient diagnosed with schizophrenia.

## II. THE CASE HISTORY:

A 19 year old female student presented to our OPD in September, 2019 with complaints of withdrawn behaviour, muttering, giggling and laughing to self, irritability and increased anger, disorganization, gesturing, physically abusive behaviour, poor functional status, refusal to eat since 3-4 years and increased since 5-6 months. The symptoms started after she didn't perform as per her expectations in her 10<sup>th</sup> board examinations. Withdrawn behaviour was noticed first; she would prefer to remain in isolation, had to be coerced into studying or going for her classes. She eventually developed irritability and increasing anger, manifesting at very minor provocations followed by disorganized behaviour-tearing up clothes, throwing away books and copies for no justified reason. Her symptoms increased and unprovoked physical assaults on her family members developed. Family

members took a private consultation; she was started on risperidone 6mg, aripiprazole 15mg and sodium valproate 600mg in divided doses along with trihexyphenidyl 2mg which was continued for about 1½years with good compliance. Her irritability and anger had somewhat reduced but she continued being withdrawn, with impaired personal judgement. The patient subsequently developed amenorrhea and had consulted local physician for the same, following which menstruation resumed. However, while still continuing on medicines, symptoms of talking to self, muttering, inappropriate laughing and giggling resumed. Following this, family members took another private consultation in December, 2017 and she was given aripiprazole 10mg, olanzapine 10mg, trihexyphenidyl 2mg but there was no response. Previously remitting symptoms reappeared like disorganization and gesturing. She was subsequently started on risperidone 4mg, olanzapine 15mg, sodium valproate 600mg in divided doses. Medicines were continued with good compliance for another 1½years with partial improvement of symptoms. Due to financial difficulties, she could not continue medicines. Subsequently, she developed ambivalence and gesturing and symptoms continued to increase. She also had amenorrhea for 3months at the time of presentation.

History of a suicide attempt by her younger brother is present. She also had a history of bedwetting till about 13years of age, which apparently resolved spontaneously thereafter. No past history of major medical/surgical illness and no history of any substance abuse. Premorbidly, she was a slow-to-warm-up child.

On mental status examination, she was found to have increased psychomotor activity, with irritable affect, inappropriate laughing and giggling at times, along with gesturing. She would move her arms around the back of her head as if trying to chase something out of her ears. Sometimes she closes her ears with her hands. She had a delusion that there were two cats inside her head- a black female cat in the left side of her head and a white male cat inside the right side of her head. She further elaborated that the female cat keeps disturbing her and talks to her in her own voice. The cat commands her not to speak whenever she wanted to say something. The patient herself would also try to stop the cat from speaking to her by asking the cat aloud to shut up or sometimes, try to bang the side of her head in an attempt to throw the cat out of her ear. She also said that the male cat would play music with a *damaru* (a small two-headed drum) all day and despite trying to stop the cat from playing the music by verbally commanding or banging her ears with her hands, she would be unable to. She was

convinced that both the cats had entered her head through each of her ears, and the female cat was the same as the one she had once seen as a 12-year-old child at a hotel, near a washbasin. She also could hear the cat talk to her in her own voice in her mother tongue. Her test judgment was intact, but social and personal judgement was impaired and insight was grade 1.

She was advised hospitalization and was started on haloperidol 10mg along with promethazine 100mg in divided doses parenterally. Biochemical and radiological investigations were found to be within normal limits. Blood counts were normal and EEG was normal. Thereafter she was started with olanzapine 20mg orally along with 5mg of aripiprazole, keeping in mind the risperidone-induced amenorrhea. Menstrual cycles resumed but no significant response was noted with regards to psychopathology. Adequate trials of risperidone, olanzapine, aripiprazole were given with only partial response. Patient was planned for modified electroconvulsive therapy (ECT). 7 ECTs were given. However, no satisfactory response was noted, and she was then started on clozapine, initially started on low dose and then built up to 300mg in two divided doses. She was then planned on amisulpride as add-on to clozapine. She was then given amisulpride 200mg starting initially with lower doses. Trihexyphenidyl 2mg was added to the treatment regimen. Satisfactory response was noted and symptomatology improved. She was discharged on these medications.

### III. DISCUSSION:

Delusional Zoopathy is more a form of visceral hallucination with an accompanying delusion that an animal is moving around one's body, without any medical/microbiological evidence. The core features include a rigid belief against all medical evidence that they are infested and abnormal sensations "as if" infectious agents evoke them (using descriptions like crawling, biting, leaving marks, building nests)<sup>(2)</sup>. It is also known as delusional infestation, delusional parasitosis, Ekbom syndrome. It is often associated with organic causes like tumors involving the thalamus (Casey and Kelly, 2007) and may occur secondary to schizophrenia, substance use disorder involving mostly cocaine, methamphetamine, tetrahydrocannabinol, alcohol, methylphenidate, etc. Multiple case reports on delusional parasitosis as a single symptom have been noted worldwide. DSM-5 has classified delusional parasitosis under delusional disorder-somatic type and as per the tenth revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10), it is classified under persistent delusional disorder. However, delusional zoopathy remains to be included.

Mitra et.al. reported delusional zoopathy manifested due to psychosis induced by cannabis (3). The patient had a hallucination that a mole was moving around inside his abdomen along with a delusion that the movements are caused by the mole in his abdomen. He was managed with olanzapine 20mg per day with complete abstinence of cannabis, and symptom resolution occurred in 2 weeks.

Laupland and Valiquette<sup>(4)</sup> reported in their review that delusional infestation can be primary and secondary to underlying psychiatric illnesses like schizophrenia, depression, alcohol abuse, cocaine abuse, methamphetamine abuse, and cannabis abuse. It

was noticed that patients with delusional infestation presented with symptoms involving the skin primarily, but a wide variety of organs may be involved. Common therapies that were noted in the article include risperidone, olanzapine, aripiprazole with improvement beginning in 1-2 weeks, and maximum improvement noticed in 3-10 weeks. Remission is expected to occur in 75% patients with 25% patients having a chance to relapse.

When occurring secondary to schizophrenia, the delusion of infestation is usually bizarre-involving some animals being planted inside them, often starts early in life and will be accompanied by other schizophrenic symptoms with a blunted or flat affect (2).

Another report by Alam et.al. (6) discusses an 18-year-old male complaining of a pricking and crawling sensation at the back of his head, which he attributed to worms that entered his brain when he washed his face and head, along with other complaints of excessive worrying and decreased social interaction, with a delusion of infestation in thought. He was diagnosed with delusional disorder-somatic type as per DSM-5 and treated with risperidone 6mg in two divided doses along with trihexyphenidyl 4mg in two divided doses but with no response.

One report by Ozten et. al. (7) accounted about a 70-year-old woman complaining of feeling large worms moving inside her body along with weight loss, restlessness, palpitations, sweating, bilateral fine tremors of upper extremities and intolerance to heat. She was diagnosed with delusional parasitosis secondary to hyperthyroidism and was managed with pimozide 4mg/day along with levothyroxine sodium 100 µg/day, and later once symptoms improved, pimozide was tapered to 2mg/day. However, it is currently not approved as a first line of management due to risk of extrapyramidal symptoms and QTc prolongation.

Discussions are yet to yield a definite mechanism behind the psychopathology of delusional zoopathy. In conjunction with this, there is a dearth of case reports of delusional zoopathy secondary to schizophrenia.

### IV. CONCLUSION

While case reports covering delusional infestation as a monosymptomatic illness or secondary to substance abuse are many, report of delusional zoopathy occurring secondary to schizophrenia are still trying to find its way into the psychiatric literature. Most case reports suggested the use of atypical antipsychotics like risperidone, olanzapine, aripiprazole in the management of delusional infestation, while one report reveals the use of pimozide. Our case, being a chronic schizophrenia with delusional zoopathy, was refractory to risperidone, olanzapine, and aripiprazole as well as ECT and responded well with clozapine and amisulpride. Along with appropriate pharmacotherapy, psychoeducation and providing psychosocial support goes a long way in helping with understanding of the illness as well as compliance and consistent response.

#### Declaration of Patient Consent:

The authors certify that consent has been obtained in appropriate consent form with a clear understanding that the patient's clinical information will be reported in scientific journals

and may be used for academic purpose while maintaining complete confidentiality of the patient's identity.

**Conflicts of Interest:**

There are no conflicts of interest.

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