Varied Presentation of Delusion of Parasitosis (DOP): A case series study

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Abstract

Introduction: Delusion of parasitosis is a common presentation with multiple aetiologies. It usually presents in a dermatological set up; however a psychiatric consultation is often required for optimal management.

Materials and Methods: A series of 22 cases which presented in the psychiatric outpatient section or were referred from the dermatology department were analyzed and followed up.

Results: The majority of the subjects were females in the middle to elderly age group and the commonest diagnosis was psychosis and the majority responded to olanzapine and fluoxetine.

Discussion: The presentation of delusion of parasitosis (DOP) is a disorder with multiple aetiologies and needs optimal management which should ideally be tailor made, hence a good liaison set up is needed.

Keywords: Delusion of parasitosis (DOP); Psychosis; antipsychotics; antidepressants.

Introduction

Patients with Delusional Parasitosis (DOP) suffer from a fixed, false belief that they are infested with parasites or other organisms. DOP is classified as a Primary Psychiatric Disorder, which is considered a psychological disorder.

DOP, has been called by different names by different authors viz. "delusional infestations,""Acarophobia,""Ekbom syndrome" and "Morgellons,".[(1)]

Epidemiology

The disease has preponderance in older woman. The female to male ratio is 2:1, however, among younger patients, the female to male ratio is equal, beyond 50 years of age, it is 3:1.[(2)] The average age of onset varies from 55.6 years to 65 years as per literature.[(3,4)]

Presentation

As the subjects suffering with disorder have a fixed, false belief that they are infested with parasites or other organisms, it is reported that they suffer from skin lesions, there are excretions of fibers or some solid material from the skin and, usually there are skin sensations of formication (crawling, stinging and/or biting) associated with or without itching and skin lesions like pruritic patches and at times, "pins and needles" sensations that may be long lasting and recurrent.[(5,6)]

Sometimes there are elaborate explanations by patients regarding the details of complex life cycles of these "parasites," giving descriptions of their growth and breeding cycles. Patients with this disorder are often preoccupied with structures like fibers, hair or skin tags or similar such inanimate objects, claiming that these "move" and so have life. The subjects are also known to bring these particles or objects to the clinician as evidence of their claim of the parasite living in their body.[(6,7)]

They also exhibit the “matchbox sign” (also called “specimen sign”) wherein the subject brings specimens kept in a small container such as a matchbox for examination as evidence for their claim. The particles usually consist of fragments of skin, hair, dried blood or scabs or occasionally living organisms such as ants or flies. Subjects go to a great extent in taking steps to cleanse and disinfect the skin or even destroy clothing and furniture as is commonly found in subjects suffering with obsessive compulsive disorders.[(8)]

A recent cross-sectional study conducted by the Centers for Disease Control of 115 patients in the US between 2006 and 2008 collected epidemiologic data, carried out clinical evaluations and analysis of materials collected from patients' skin for those subjects who reported to be infested by insects. Fibers, specks, dots, threads, granules, fuzzy balls and other forms of solid material coming out of the skin were brought as evidence.[(8)]

Given the above background we discuss cases which have different primary diagnosis but a single prominent manifestation of DOP.

Materials and Methods

The authors present a series of 22 cases of DOP in the following tables:

Results

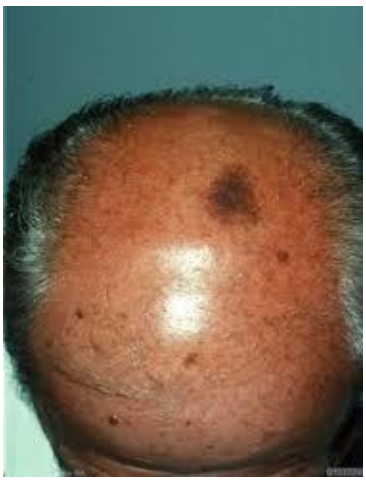
Of all the 22 cases taken, 13 were females giving a female to male ratio of 3:1. Out of the 19 were married and the rest unmarried. Most females were house wives and the rest farmers. The age at presentation ranged between 50-70 mostly, (there two patients of 15 and 16 years old). 9 of the patients had co-morbid major depressive disorder, while one patient had psychosis and

one had anxiety. The nature of symptoms were variable including repetitive, intrusive feeling of worm coming out of body, crawling under skin but not seen ,repeated skin picking behavior, anxiety, restlessness, loss of appetite, sadness of mood, disturbed sleep, worthlessness, weeping episodes, intermittent suicidal ideation. 8 patients were given Pimozide and 5 had got Olanzapine and some got risperidone. Most of the patients were started with SSRI from Dermatology Department and referred to Psychiatry due to lack of improvement (Table 1). The subjects presented with multiple cutaneous excoriations on exposed body parts like scalp, shoulder (Fig. 1). The materials brought by the subjects ranged from hair, skin tag, and thread (Fig. 2).

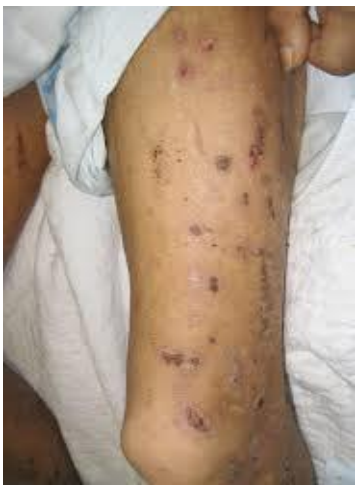
Table 1: Summarised case history

Case No	Age & Gender	Occupation	Marital status	Comorbidities	Duration of Symptoms	Treatment response
1	50y,F	H/M	M	Major depression	3ys	1. T. Trihexyphenadyl (2mg) 1OD 2. T. Pimozide (2mg) 1/2HS then 1hs 3. T. Fluoxetine(20mg)1OD 4. T. Pregabalin(75mg) 1BD 5. T Clonazepam(0.5mg) ½ -0- 1
2	50y,M	Bicycle Worker	M	Major depression	2mths	T. Pimozide (2mg) 1Hs
3	40ys, M	Barber	M	Major depression	2ys	1. T. Fluoxetine (20mg) 2tab OD 2. T. Pregabalin(75mg)1tabOD 3. T. Zolpidem (10mg) HS 4. T. Oxcarbazepine (150mg) 1BD
4	50 ys, F	H/M	M	Moderate depression	8ys	1. T. Pimozide (2mg) BD then 1-0-2 2. T. Trihexyphenadyl (2mg) 1BD
5.	36ys/F	H/M	M	Anxiety disorder	4ys	1. T. Fluoxetine (20mg) 1 tab 4days then 40mg x 4days then 60mg. 2. T. Pimozide(2mg) ½ hs 3. T. rihexiphenadyl(2mg) 1tab BD 4. T. Oxcarbazepin(150mg) 1tab HS 5. T. Pregabalin(75mg) 1BD 6. T. Clonazepam(0.5mg) ½ -0- 1
6.	32ys/F	H/M	M	Major depression	6mths	1. T. Fluoxetine (20mg) 1 tab 4days then 40mg x 4days then 60mg 2. T. Pimozide(2mg) ½ hs 3. Trihexiphenadyl(2mg) 1tab BD 4. T. Oxcarbazepin(150mg) 1tab HS 5. T. Pregabalin(75mg) 1BD 6. T. Clonazepam(0.5mg) ½ -0- 1
7.	60ys/F	H/M	M	Moderate depression	4mths	1. T. Escitalopram(10mg) 1bd 2. T. Pregabalin(75mg) 1BD 3. T. Clonazepam(0.5mg) ½ -0- 1
8.	60ys/F	H/M	M	Major depression	3 mths	1. T. Fluoxetine (20mg) 1 tab 4days then 40mg x 4days then 60mg. 2. T. Pimozide (2mg) ½ hs 3. T. rihexiphenadyl (2mg) 1tab BD 4. T. Oxcarbazepin (150mg) 1tab HS 5. T. Pregabalin (75mg) 1BD 6. T. Clonazepam (0.5mg) ½ -0- 1 Significant improvement noted
9.	58ys/F	H/M	M	Psychosis	10ys	1. T. Pimozide (2mg) 1HS 2. T. Trihexyphenadyl (2mg) 1OD 3. T. Escitalopram plus Clonazepam(10mg +0.5mg) 1Bd
10.	61ys/M	Farmer	M	Major depression	2ys	1. T. Haloperidol (1.5mg) 1HS 2. T. Clonazepam (0.5 mg) ½ -0-1 3. T. Zolpidem (6.25mg) 1HS Significant Improvement Reported By Patient After 3 Weeks
11.	64ys/F/	H/M	M	Delusional disorder		T Olanzapine 10mg.total remission in 3mts.

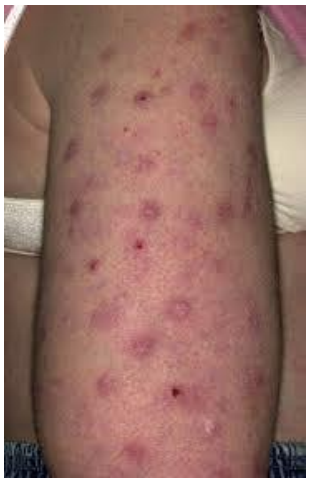
12.	70ys,M		M	Delusion as part of psychosis	5 yrs	Put on 2.5mg of Olanzapine. Reported about 50% improvement in symptoms in 6wks.Titration of Olanzapine to 5mg resulted in complete remission in 3 months and is maintaining full recovery on this dose.
13.	24ys,F		UM	Psychosis	1 yr	T. Olanzapine Titrated Upto 7.5 mg pt. Symptoms remitted in 6wks and is maintaining well on 2.5 mg of olanzapine for the past 3mts.
14.	50y,F		M	Psychosis	3 yr	T. Olanzapine (2.5) HS, 30-40% improement in Symptoms in 2 wks. Her medicine was titrated to 7.5mg with complete remission within 2mts period. Pt is maintaining well on even after 6mts and is on currently on 5mg of olanzapine
15.	29ys,M		M	Psychosis	2yr	T. Olanzapine (5 mg) increased up to 15mg with remission of Symptoms in 4 wks. Currently pt. is maintaining on 7.5mg of olanzapine even after 4mts.
16	40 yrs/M		M	Depression with type 2 DM	4 yrs	Fluoxetine 20 mg hiked to 40 mg in 2 weeks and management of diabetes maintaining well since 4 mts
17	16 yrs/M		UM	OCD	6 mts	Fluoxetine 20 mg hiked to 60 mg along with pregabalin 75 mg maintaining remission upto 80% after 4 mts pregabalin stopped but fluoxetine maintained at 40 mg and behavioral modification. Maintaining well at 80-85% remission since past 6 mts
18	65yrs/F		M	Psychosis with diabetes	3 yrs	Olanzapine tab at 7.5 mg ,good diabetes control and after 4 mts olanzapine reduced to 5 mg 100% remission since 4mts plan to reduce olanzapine further
19.	70yrs/ M		M	Psychosis	5 yrs	Pimozide began from 2 mg and hiked upto 6 mg developed EPS so reduced to 4mg maintaining full recovery since 6mts but attempt at decreasing the dose have not been successful
20.	15yrs/ M		UM	OCD	2yrs	Fluoxetine along with buspirone was given ,improvement was upto 50% however behavior therapy was instituted and the subject became asymptomatic in 8 mts ;maintaining premorbid functioning since past 4 mts
21.	45ys/F	H/M	M	Major depression	1yrs	1. T. Fluoxetine (20mg) 1 tab 4days then 40mg x 4days then 60mg 2. T. Pimozide(2mg) ½ hs 3. Trihexiphenadyl(2mg) 1tab BD 4. T. Oxcarbazepin(150mg) 1tab HS 5. T. Pregabalin(75mg) 1BD 6. T. Clonazepam(0.5mg) ½ -0- 1
22.	53/F	H/M	M	Delusional parasitosis	2 Yrs	T. olanzapine2.5 mg 0-0-1



Scalp

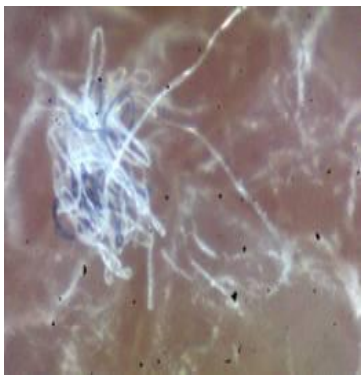


Elbow



Shoulder

Fig. 1



Skin with hair clump

Fiber strand

Clump of hair

Fig. 2

Discussion

Many common aspects are seen in our case series to the ones available in the literature. Female predominance is seen with the age group of 50-60 years being the most common age group. Majority of the females belonged to the age group reported in the literature.

Prior to making a final diagnosis of DOP utmost care must be taken to rule out other causes which may present a similar picture, hence a proper work up and awareness of the differential diagnosis is important. The significant disorders which need to be excluded are first formication,[9] secondary formication due to delusions related to substance abuse, as drugs like cocaine and amphetamines are known to induce formication and occasionally a delusional state that may closely resemble primary DOP.[10] The formication induced by cocaine has been referred to as "cocaine bugs". Other disorders which need consideration are schizophrenia as patients may have a delusion that they are being attacked by "organisms" as a result of paranoid manifestation. Patients of severe depression with psychotic features may also harbor a belief that they are contaminated or are dirty because of an infestation with insects. The other disorders known to mimic DOP and need to be ruled out are true skin disorders like Grover's disease and scabies incognito which may be misdiagnosed as DOP. Nutritional deficiencies like pellagra, Vitamin B12 deficiency and folate deficiency may present with a picture resembling DOP.[3,11-13] DOP-like symptoms can also be seen in cerebrovascular disease and central nervous system disorders such as dementia, multiple sclerosis, head injury and multiple system atrophy.[3,11,14-17] Central nervous system infections such as neurosyphilis, meningitis and encephalitis are some other illnesses which need to be excluded.[3] Paresthesia due to metabolic disorders especially type 2 DM can also lead to a picture of DOP. The cases illustrated in the series had more or less all the psychopathology and pathology enumerated in the literature and a few of our cases also had type 2 DM.

Treatment

The main line of management includes pharmacological methods as the primary disorder of DOP is psychotic in nature, non-pharmacological methods have a limited use as psychotic patients are

unable to have an insight into their psychopathology. However, it is important to build a strong therapeutic alliance to ensure the compliance of patient with medication. As a significant step performing laboratory tests, examining patient specimen samples in order to reassure the patients and performing tests so as to rule out any underlying pathology. The pharmacological treatment of choice for DOP is antipsychotic medication. A good preclinical examination and investigations like an electrocardiogram (ECG) to ensure the patient does not have an arrhythmia or increased QT interval, base line blood parameters to keep a check on the metabolic profile, and since the majority of the patients belong to the middle aged to elderly age group a follow up ECG and blood biochemical tests should be done.

Pimozide, an anti-psychotic is often the first choice in DOP patients.[19-20] The medication comes in 2 and 4 mg. tablets and is initiated at a low dose of 0.5 mg. and gradually built up to maximum 6 mg. the dose is given at 8 hourly to 12 hourly intervals based on the tolerability, as there is a possibility of extrapyramidal side-effects (EPS), including restlessness and stiffness. The EPS can generally be controlled by prescribing anti-colinergics like diphenhydramine 25-50 mg every 4-6 hours. Benztropine 1-2 mg four times daily or Trihexyphenydyl 2mg three times daily. The pimozide medication needs to be gradually built up in order to increase the compliance. Atypical antipsychotics such as risperidone, olanzapine, quetiapine, ziprasidone and aripiprazole can also be given. The atypical anti psychotics are known to cause metabolic syndrome hence prior to starting these medications a full metabolic profile including a complete blood count (CBC) at baseline, 1 month, 6 months and 1 year in order to monitor for bone marrow suppression, fasting lipids, fasting glucose, glycated hemoglobin (HBA1C), weight and body mass index monitored for possible metabolic complications. Risperidone is the second line alternative of Pimozide for DOP. According to a case series of three cases of DOP suffering from folieà deux the delusional parasitosis responded well to oral risperidone.[21] A couple of our cases also responded to resperidone. Third line preference is Olanzapine.[22] Olanzapine can be started at 2.5 mg daily, and slowly titrated to a therapeutic dose of 5-10 mg daily. Patients need to be monitored for weight gain and metabolic syndrome so care should be taken to measure weight, HbA1C, fasting glucose and fasting lipids. Most of our subjects also improved on olanzapine and of this series the medication proved to be important second line. Quetiapineis also reported to be effective for DOP.[22] It is started at low doses of 12.5 mg in the evening, and gradually titrated up to 200 mg. as night medication. Side effects include sedation, which is temporary and resolves within 3-7 days and orthostatic hypotension. None of our subjects were put on quetiapine.

The present case series concurs with the studies available in this area. The problem becomes disabling and frequently presents to a dermatological clinic, hence a good liaison is needed to treat the patient adequately.

Conclusion

DOP is a primary psychiatry illness which is psychological and the basis of this illness is a false fixed belief of being infested by insects or other organism .DOP is treatable and needs strong alliance between Physician and patient to ensure a successful treatment. As seen in our cases the treatment needs to be tailored as per the patients need. The treatment of choice are antipsychotic medication and a strong therapeutic alliance is beneficial.

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