

## CLINICAL VIGNETTE

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# Resolution of a Parasitic Delusion – A Case Report

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### Introduction

Delusional parasitosis (DP) manifests in patients who develop a persistent unfounded belief that their body is infested with parasites. Typically, patients experience visual or tactile hallucinations of what they perceive to be parasites, and they also often submit various materials and substances to support their infestation claims. The delusion often becomes an obsession and causes significant anxiety and emotional distress to the patient. The illness can be classified into several categories including primary DP, without associated psychiatric illness, secondary DP, associated with an underlying psychiatric illness and organic DP, due to an underlying non-psychiatric medical condition. The outpatient provider, should determine into which category the patient belongs in order to avoid delays in treating an underlying organic cause or to administer appropriate psychopharmacologic therapy.

### Case Presentation

A 57-year-old woman on chronic treatment for hypothyroidism and attention deficit disorder presented to infectious diseases clinic a complaint of parasite infestation. She had been well until five days prior when she moved to a new residence. She stated she was in the midst of a parasite infestation with parasites everywhere including all over her hair, skin, and clothes. She stated that the worms could be seen crawling on her skin and she noted that drinking coffee would cause worms to visibly come out of her mouth. She provided numerous pictures of non-descript substances that she stated were evidence of the parasite infestation. During the evaluation she stopped the discussion to point out she was being bitten by parasites and began scratching incessantly and vigorously at a purported parasite until advised that the purported parasite was a freckle, although she remained adamant it was a parasite. She removed outer layers of clothing and shook them and her hair vigorously to prove the parasitic infestation, however, she was very surprised to find that no parasites came out of her hair or clothes. Aside from the visual and tactile sensations attributed to parasites, she denied any fever, chills, sweats, focal symptoms, or objective abnormalities. Her physical exam was unremarkable and it was suspected that her symptoms were due to delusional parasitosis. Reassurance was given and an offer was made to evaluate her stool for ova and parasites to give her further reassurance, but she declined stool studies, insisting on antiparasitic therapy. The following day the patient called for urgent advice because she stated worms were visibly coming out of her mouth, skin, and anus. She reported that she could

feel a worm coming out of her skin at that moment while talking on the phone. The patient declined referral to psychiatry and insisted on antiparasitic medication. In an effort to get her psychiatric care, she was advised that her situation was too severe to manage over the phone and was referred to the ED for management. In the ED she was put on a psychiatric hold and transferred to a psychiatric facility where she was titrated off dextroamphetamine/amphetamine, liothyronine was discontinued, and the dose of levothyroxine was decreased. Her symptoms of delusional parasitosis subsequently resolved without recurrence.

### Discussion

This case is informative in highlighting the importance of identifying substance induced organic causes of DP requiring treatment of the underlying condition. Though DP is most often due to primary delusional disorder or underlying psychiatric illness, a significant percentage of cases are due to an underlying reversible organic disorder. In a meta-analysis by Trabert *et al* involving 1123 patient cases, the mean age of diagnosis was 57 with a female predominance. A subset review of 449 cases revealed that 21.8% of the patients had DP due to an organic cause, with the remainder being due to primary delusions or secondary to underlying psychiatric illness.<sup>1</sup>

Though these patients are often referred to dermatology or infectious diseases, this can often lead to increased patient frustration, distress, and even fatal consequences with documented reports of suicide, killing of family pets, property destruction, and assault on physicians who decline to provide antiparasitic therapy.<sup>2-4</sup> Referral to multiple specialists adds to patient distress, and it has been shown that patients are benefited by longitudinal follow up with a single provider in whom they trust.<sup>5</sup> It is thus of critical importance to have a high level of suspicion for this condition so that these patients can be identified and directed to appropriate therapy early so that adverse outcomes can be avoided.<sup>6</sup>

The first step in evaluation is to rule out potentially reversible organic causes. Recommended initial screening studies to evaluate for organic causes as indicated by patient presentation include sending a CBC, CMP, TSH, urinalysis, serum vitamin B<sub>12</sub>, folate, and iron studies.<sup>7</sup> As demonstrated in this case, review of the patient's medication regimen is helpful to evaluate for potential drug-drug interactions or overdose. A thorough

review of social history is also important to determine if there are any potential toxin or recreational substance exposures that could have induced the delusions.

Once organic causes are excluded, attention should be turned to psychiatric causes which comprise the majority of cases. Patients are often hesitant or refuse to be seen by a psychiatrist, making it important for the primary care physician to be aware of psychopharmacologic management options. Although clinical improvement rates of primary and secondary DP were as low as 18% in one study in the pre-neuroleptic era,<sup>8</sup> recovery rates have since improved in the post-neuroleptic era, with the review by Trabert *et al* revealing about 71% had at least some improvement with pharmacologic therapy and 51.9% achieved full remission.<sup>1</sup> Conventional antipsychotics such as pimozide, as well as modern atypical antipsychotics, have both been used effectively. In a review of 63 cases including both primary and secondary DP, it was suggested that antipsychotic therapy may be more effective in secondary rather than primary DP.<sup>9</sup> In cases of failure of pharmacologic therapy, or as an alternative, there are also reports of cure with electroconvulsive therapy.<sup>10</sup> As the case presented in this paper highlights, an involuntary psychiatric hold may be necessary in extreme cases for the safety of patients and their contacts.

Increasing primary care physician awareness of the diagnosis of delusional parasitosis, its presentation, and its management, could improve patient care and decrease patient distress by avoiding delays in treatment due to unnecessary medical consults or interventions, and by earlier implementation of appropriate therapeutic measures.

## REFERENCES

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