Treatment of delusional infestation

AUTHOR: Kathryn N Suh, MD, FRCPC
SECTION EDITORS: Stephen Marder, MD, Erik Stratman, MD
DEPUTY EDITORS: Michael Friedman, MD, Abena O Ofori, MD

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Literature review current through: **Oct 2023.**
This topic last updated: **May 02, 2023.**

INTRODUCTION

Delusional infestation is a rare disorder in which affected individuals have the fixed, false belief (delusion) that they are infected by "bugs": parasites, worms, bacteria, fungi, mites, or other living organisms, or “fibers.” As with all delusions, this belief cannot be corrected by reasoning, persuasion, or logical argument. Many affected individuals are quite functional; for the minority, delusions of parasitic infection may interfere with usual activities, and for some very significantly [1].

Delusions of infestation are the most common form of monosymptomatic hypochondriacal psychosis; others include delusions of dysmorphism and delusions of body odor or halitosis.

This topic addresses the treatment of delusional infestation. The epidemiology, clinical presentation, and diagnosis of delusional infestation are discussed separately. Other psychotic disorders are discussed separately. First- and second-generation antipsychotic medications are discussed separately.

- (See "Delusional infestation: Epidemiology, clinical presentation, assessment and diagnosis".)
- (See "Postpartum psychosis: Epidemiology, clinical features, and diagnosis".)
- (See "First-generation antipsychotic medications: Pharmacology, administration, and comparative side effects".)
- (See "Second-generation antipsychotic medications: Pharmacology, administration, and side effects".)

- (See "Schizophrenia in adults: Maintenance therapy and side effect management".)

TERMINOLOGY

Delusional infestation is also called delusional parasitosis [2]. It is a delusional disorder of the somatic type [3], a subgroup of delusional disorders in which nonexistent disease or alteration of the body forms the basis of the disorder.

Two forms of delusional infestation are widely recognized [4,5]:

- **Primary delusional infestation** – Primary delusional infestation is a psychiatric disorder with the delusion of parasitic infection as its only manifestation.
- **Secondary delusional infestation** – Secondary delusional infestation is a symptom rather than a disorder. The delusion of infestation occurs secondary to another psychiatric disorder or to a medical illness.

APPROACH TO THE PATIENT

Key to the management of patients with delusional infestation is the development of a strong, therapeutic relationship. Many patients express dissatisfaction with previous clinicians whom they believe are incompetent and uncaring. As a result, patients often fail to attend follow-up appointments and receive inadequate or no therapy. A nonjudgmental approach, acknowledgment that the patient's symptoms are real, and empathetic exploration into the effects their symptoms have had on their daily lives can instill a sense of trust [6].

It has been debated whether or not the clinician should overtly agree or disagree with the patient's beliefs [7]. Many authors suggest that a nonconfrontational approach be employed [1,7-9], using phrases such as "I cannot see any parasites today" rather than "there are no parasites" [10], and acknowledging that a problem may have resulted from a previous infection [11]. In our clinical experience, it is important to neither dismiss patients' complaints as trivial nor to overtly support unfounded beliefs and feed into their delusional system. Reassurance that the patient can be helped can be worthwhile.

Convincing patients to take antipsychotic medications is a major challenge in the management of this disorder. Rejection of a psychiatric basis for the dermopathy is a defining characteristic of the illness, thus rejection of psychiatric treatment is to be expected. A number of strategies has been suggested in prescribing antipsychotics for these patients.

- One strategy is to tell the patient that the problem is a "biochemical imbalance," possibly the result of a previous infection that is no longer present. Patients may be more likely to agree to take medication for treatment of a "chemical imbalance" than for a psychiatric problem.

- It should be explained to the patient that although antipsychotic medications are commonly used for schizophrenia, it is not being used for schizophrenia and the patient does not have the disorder.

- It can be further explained to the patient that drugs used for one purpose are often found to have additional unrelated uses. It is important to provide examples, such as aspirin for pyrexia and stroke prevention, beta blockers for coronary artery disease and prevention of migraine headaches, or amitriptyline for depression and neuritis.

- Some patients may be persuaded to try medication when told that other patients with a similar condition have experienced great relief in their symptoms.

- For patients who ask why they continue to "see" parasites when others do not, the concept of the "phantom limb" may be presented as a possible explanation.

Some clinicians recommend bypassing the disclosure of a delusional diagnosis to patients who are likely to respond by refusing the antipsychotic, thus protecting them from harm. This approach is controversial, and raises concerns about withholding information based on principles of patient autonomy and informed consent [12,13].

In the case of initial adverse drug events or failure of an antipsychotic medication, it is helpful to explain to the patient that it is important to find the “right drug for the right patient,” one that is both safe and effective. This explanation may help allay the patient’s concerns or impatience when more than one drug regimen is necessary.

PHARMACOTHERAPY

Choosing initial medication — Our preference for first-line treatment of primary delusional infestation is with second-generation antipsychotic medications rather than first-generation antipsychotics or other medications. Antipsychotics vary widely in their side effect profiles. We favor second-generation antipsychotics rather than first-generation antipsychotics based on their lower rate of extrapyramidal symptoms. Side effects of antipsychotics are presented on the associated table (table 1). (See 'Monitoring and side effects' below and "Second-generation antipsychotic medications: Pharmacology, administration, and side effects" and

"First-generation antipsychotic medications: Pharmacology, administration, and comparative side effects".)

In the absence of evidence to support one particular antipsychotic over another, our preference among second-generation antipsychotics is risperidone as it has been most widely studied [14,15]. However, we consider specific patient factors such medical history (eg, cardiovascular risk factors), history of prior treatment with antipsychotic medication, weight, and patient preference. Discussion of choice of antipsychotic in specific populations is found elsewhere. (See "Psychosis in adults: Initial management", section on 'Additional patient-specific considerations'.)

Pimozide, a first-generation antipsychotic that has been widely used in practice and published reports for delusional infestation [10,16-19], is no longer considered first-line treatment. Pimozide has antagonistic effects on opiate receptors in addition to a selective blockade of dopamine type 2 receptors. The opioid blockade has been postulated as contributing to a reduction in pruritus and formication [20,21]. However, there is no rigorous evidence that pimozide is more effective in treating delusion infestation than other antipsychotic medications [21,22]. In addition, pimozide's side effect profile has disadvantages compared with other antipsychotics (eg, prolonged QT interval). (See 'Monitoring and side effects' below and "Psychosis in adults: Initial management", section on 'Cardiovascular risk factors'.)

Initiating and titrating antipsychotic medication — We prefer to initiate the antipsychotic at a low dose and increase gradually (eg, in weekly increments) to minimize side effects and arrive at the lowest effective daily dose. Patients with delusional infestation often respond to antipsychotic medications at lower doses than patients with other psychotic disorders.

As examples:

- We begin risperidone at 0.5 mg/day (given as one or two daily doses) and advanced weekly to the lowest clinically effective dose [23-25]. In our experience, most patients require between 2 and 4 mg/day; however, when necessary, the dose can be increased up to 8 mg/day.

- We begin aripiprazole at 2 mg/day and increase by 2 mg every two weeks; typical dose 8 to 12 mg/day.

- We begin olanzapine at 2.5 mg/day and titrate by 2.5 mg every week. Typical dose needed is between 2.5 to 7.5 mg/day; however, doses up to 20 mg/day may be necessary in some patients for an optimal response [26-28].

- We begin quetiapine at 25 to 50 mg and titrate by 25 to 50 mg weekly to 200 mg/day if needed.

Monitoring and side effects — Prior to beginning treatment with antipsychotic medications (ie, first- or second-generation), we obtain a baseline metabolic panel and an electrocardiogram (ECG). We avoid medications that are associated with prolonged QT interval in individuals prolonged baseline QT interval. (See "Acquired long QT syndrome: Definitions, pathophysiology, and causes" and "Acquired long QT syndrome: Clinical manifestations, diagnosis, and management".)

Adverse effects associated with first- and second-generation antipsychotics are discussed elsewhere. (See "First-generation antipsychotic medications: Pharmacology, administration, and comparative side effects" and "Second-generation antipsychotic medications: Pharmacology, administration, and side effects".)

A table provides a recommended schedule for monitoring the metabolic effects of first- and second-generation antipsychotics (table 2). More frequent measurements may be necessary for individual patients (eg, more frequent assessment of lipids and glucose in the patient who has a significant weight gain) or for patients on specific antipsychotics (eg, olanzapine and quetiapine), where there is clear evidence of an increased risk of insulin resistance [29].

Efficacy — There are no randomized clinical trials of antipsychotic medication for primary delusional infestation [14,20,30]. A systematic review of case series and observational studies including almost 300 patients found response rates to antipsychotics of 60 to 100 percent [14].

In analyses of published outcomes of treated cases of delusional infestation, no particular antipsychotic agent appears clearly superior to others, nor is there a difference in response rates between first- and second-generation antipsychotics.

- First-generation antipsychotics described in published cases as effectively treating delusional infestation include pimozide [10,16-19], perphenazine [31], chlorpromazine [32], thioridazine [33], trifluoperazine, haloperidol, and fluphenazine [20].

- Second-generation antipsychotics described in case reports and case series as effectively treating delusional infestation include risperidone [23-25,34], olanzapine [35-38], quetiapine [34], sertindole [39], sulpiride [40], aripiprazole [41], paliperidone [39], and ziprasidone [42].

Randomized clinical trials have demonstrated the efficacy of antipsychotics in reducing psychosis in a variety of psychotic disorders [43-45], without consistent differences in efficacy

among the medications. (See "Bipolar mania and hypomania in adults: Choosing pharmacotherapy", section on 'Initial treatment' and "Unipolar major depression with psychotic features: Acute treatment", section on 'Treatment' and "Psychosis in adults: Initial management", section on 'Antipsychotic therapy'.)

SUBSEQUENT TREATMENT

Good response to antipsychotic — There is no clearly established optimal duration of pharmacologic treatment after achieving an adequate clinical response. Our preference is to maintain the antipsychotic at the therapeutic dose for several months, and up to one year. Some experts suggest treatment for at least one year after response [15,40,46].

When discontinued, the medication should be tapered gradually over a period of weeks [40,46]. If relapse occurs, patients often respond to reinstitution of the medication. Relapses are common though the exact rate is not known [10]. Some patients require prolonged therapy to avoid relapse.

Poor response to antipsychotic — Adjustments to antipsychotic treatment in cases of poor response are reviewed separately. (See "Schizophrenia in adults: Maintenance therapy and side effect management", section on 'Medication adjustments'.)

SECONDARY DELUSIONAL INFESTATION

Treatment of a secondary delusional infestation should focus on the primary medical illness or psychiatric disorder. Antipsychotic medications are sometimes used symptomatically for limited periods, but play a minor role in treatment unless indicated for treatment of the primary illness. (See "Delusional infestation: Epidemiology, clinical presentation, assessment and diagnosis", section on 'Secondary delusional infestation' and "First-generation antipsychotic medications: Pharmacology, administration, and comparative side effects" and "Second-generation antipsychotic medications: Pharmacology, administration, and side effects".)

SOCIETY GUIDELINE LINKS

Links to society and government-sponsored guidelines from selected countries and regions around the world are provided separately. (See "Society guideline links: Psychotic disorders".)

SUMMARY AND RECOMMENDATIONS

- **Delusional infestation (also called delusional parasitosis)** is a rare disorder in which affected individuals have the fixed, false belief (delusion) that they are infected by "bugs": parasites, worms, bacteria, fungi, mites, or other living organisms, or "fibers." (See 'Introduction' above.)

- **Terminology** – Two forms of delusional infestation are widely recognized. (See 'Terminology' above.)

  - **Primary delusional infestation** is a psychiatric disorder with the delusion of parasitic infection as its only manifestation. It is a diagnosis of exclusion after ruling out a parasitic infection and other medical and psychiatric illnesses. (See "Delusional infestation: Epidemiology, clinical presentation, assessment and diagnosis".)

  - **Secondary delusional infestation** is a symptom of another psychiatric or medical illness rather than a disorder. Treatment is generally focused on the primary disorder. (See "Delusional infestation: Epidemiology, clinical presentation, assessment and diagnosis", section on 'Secondary delusional infestation'.)

- **Approach to the patient** – Patients with delusional infestation typically present in primary care or to a dermatologist. They usually are highly resistant to the idea of assessment by a psychiatrist. Whether in general medical care or psychiatric care, the development of a strong, therapeutic relationship instilling trust is central to clinical management.

  Convincing patients to take antipsychotic medications is a major challenge in the management of this disorder. Rejection of a psychiatric basis for the dermopathy is a defining characteristic of the illness. (See 'Approach to the patient' above.)

- **Choosing initial pharmacotherapy** – For patients with primary delusional infestation, we recommend treatment with an antipsychotic medication (**Grade 1B**). Antipsychotic medications are associated with high treatment response rate; other therapies have not been systematically evaluated. (See 'Pharmacotherapy' above.)

  In the absence of evidence to support one particular antipsychotic over another, our preference among second-generation antipsychotics is risperidone as it has been most widely studied. We consider specific patient factors such medical history (eg, cardiovascular risk factors), history of prior treatment with antipsychotic medication,

weight, and patient preference. Side effects of antipsychotics are found on the table (table 1). (See 'Pharmacotherapy' above.)

- **Initiating and titrating medication** – Patients with delusional infestation often respond to antipsychotic medications at lower doses than patients with other psychotic disorders. We initiate the antipsychotic at a low dose and increase gradually in weekly increments in order to minimize side effects and arrive at the lowest effective daily dose. (See 'Initiating and titrating antipsychotic medication' above.)

- **Subsequent treatment** – After achieving an adequate clinical response, our preference is to maintain the antipsychotic for several months or up to one year. Some experts suggest treatment for at least one year after response. (See 'Good response to antipsychotic' above.)

ACKNOWLEDGMENT

The UpToDate editorial staff acknowledges Jay Keystone, MD, MSc (CTM), FRCPC (deceased), who contributed to an earlier version of this topic review.

Topic 15747 Version 23.0

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