



An extremely rare case of delusional parasitosis in a chronic hepatitis C patient during pegylated interferon alpha-2b and ribavirin treatment

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Abstract

During treatment of chronic hepatitis C patients with interferon and ribavirin, a lot of side effects are described. Twenty-three percent to 44% of patients develop depression. A minority of patients evolve to psychosis. To the best of our knowledge, no cases of psychogenic parasitosis occurring during interferon therapy have been described in the literature. We present a 49-year-old woman who developed a delusional parasitosis during treatment with pegylated interferon alpha-2b weekly and ribavirin. She complained of seeing parasites and the larvae of fleas in her stools. This could not be confirmed by any technical examination. All the complaints disappeared after stopping pegylated interferon alpha-2b and reappeared after restarting it. She had a complete sustained viral response.

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INTRODUCTION

Delusional parasitosis is a psychotic condition in which a person has the unshakeable and mistaken belief (delusion) and/or aberrant perception (hallucination) of being infested with parasites^[1]. Since it was originally described in 1894^[2], it has been previously referred to as dermatophobia, parasitophobic neurodermatitis, parasitophobia or entomophobia^[3].

The etiology and pathophysiology of delusional parasitosis remain unknown. A decreased striatal dopamine transporter (DAT) functioning (corresponding with an increased extracellular dopamine-level) as an etiologic condition for delusional parasitosis (primary and secondary groups) is hypothesized. The DAT is a key regulator of the dopamine-reuptake in the human brain (regulation of the extracellular dopamine concentration). The disorder can be classified into a primary delusional parasitosis group without a detectable cause (so-called pure forms), and a secondary delusional parasitosis group which is associated with general organic conditions, psychiatric illnesses and drugs (substance induced)^[1].

Delusional parasitosis is often accompanied with a refusal to seek psychiatric care. It is classically treated with typical antipsychotic agents, the traditional choice is pimozide. However, other treatment strategies have been developed^[4-6]. After discontinuation of the medication, a complete and sustained remission can be observed without the continued use of any psychopharmacologic medication^[7].

CASE REPORT

The diagnosis of chronic hepatitis C was made in a 49-year-old woman. She was probably infected after a blood transfusion during a Caesarian section in 1989. Besides this, there was no major past medical history. At presentation, she had no complaints. Clinical examination remained normal. Her total HCV-PCR level was 563 000 IU/mL. Genotyping showed an infection with genotype 3a. There were no viral co-infections with hepatitis A, B or HIV.

Total bilirubin and alkaline phosphatases were within the normal range, while aspartate aminotransferase (AST), alanine aminotransferase (ALT) and gamma-GT (GGT) levels were elevated (respectively 197 IU/L

293 IU/L and 65 IU/L; elevated values > 32, 31 and 36 IU/L). Serological tests (anti-mitochondrial antibodies, anti-nuclear factors, ferritin, ceruloplasmin and alpha1-antitrypsin) were within normal limits. The thyroid function was normal. On liver biopsy, interphase hepatitis and intralobular activity were discovered. She had leucopenia, although blood marrow examination remained negative for any of the classical causes.

Treatment with 120 µg pegylated interferon alpha-2b weekly and 1000 mg ribavirin daily was started after which she developed flu-like symptoms, loss of appetite, myalgia, arthralgia, fever and weight loss. She also complained of seeing parasites and the larvae of fleas in her stools. This could not be confirmed neither by macroscopic nor by microscopic examination or by stool culture. Colonoscopy and radiological small bowel examination showed no abnormalities. Even careful proctologic examination revealed no abnormalities.

Because she developed significant leucopenia (500 neutrophils/mL) and thrombopenia, the treatment dose was reduced to 80 µg pegylated interferon alpha-2b weekly. Pegylated interferon alpha-2b was subsequently stopped. All the complaints disappeared within 3 wk of the full stop. Interferon treatment was started again at lower doses and increased to 100 µg for five months. Parasitosis as well as leucopenia reappeared. The treatment was stopped again and the patient developed a sustained viral response.

DISCUSSION

Parasitosis is a psychiatric disease. Patients with parasitosis have a firm belief of infestation with parasites^[8]. Patients have no obvious cognitive impairment. Somatic disorders are absent.

The classification of delusions of parasitosis is complicated. It is primarily a monosymptomatic, hypochondriac psychosis. It has been associated with schizophrenia, obsessional states, bipolar disorder, depression, and anxiety disorders. It occurs primarily in middle-aged or older white women, although it has also been reported in other age groups and in men^[9]. The patients often have a persuasive, yet idiosyncratic, logic medical history, and may be so convincing that others in the family secondarily share the delusion-a "folie à deux"^[10].

The cause of delusions of parasitosis is unknown. It appears to be related to a neurochemical pathology. This concept is underlined due to its induction by psychoactive agents such as amphetamines, alcohol, cocaine, and methylphenidate and its coincidence with depression, schizophrenia, social isolation, and sensory impairment^[9].

The diagnosis and treatment of delusions or parasitosis present a therapeutic challenge. Early identification and management by interested specialist physicians are the key. Two thirds of patients with classic psychogenic parasitosis have a contestable belief in infestation. However, patients resist suggestions that their condition is psychiatric rather than physical and tend to refuse referrals for psychiatric care. In 35% of the patients, the belief of infestation is unshakeable.

To treat the condition, a physician must establish a therapeutic alliance. To do this a doctor must listen to

the patient's somatic complaints and avoid subjective judgments and confrontations. The patient's sense of isolation must be reduced. A co-ordinated activity can (and often must) occur purely on a consultative basis because patients refuse to see a psychiatrist. If a patient accepts a referral, a face-to-face meeting with a psychiatrist should occur. Referral is especially useful if other related psychopathology is suspected^[6]. In about half of the patients, a full remission has been described during the observation period or at follow up^[9,11,12].

To our knowledge, this is the first case of psychogenic parasitosis occurring during interferon therapy. Lending weight to the relation between parasitosis and interferon is the time relationship. The psychiatric symptoms of our patient disappeared after stopping interferon and restarted after rechallenge with the medication. This was not an extreme form of parasitosis as the patient did not require antipsychotic drugs and there was no fatal outcome. The patient did not commit suicide or burn her furniture as has been described in other settings. However, she used some laxatives to get rid of the parasites like some patients use pesticides to get rid of cutaneous parasites. Perhaps because the medication was stopped very early due to leucopenia, the syndrome could not evolve further. Also after administration of ciprofloxacin, which has also been described to cause delusions^[7], the remission remained complete.

In conclusion, delusional parasitosis can occur after pegylated interferon alpha-2b therapy in chronic hepatitis C patients. After discontinuation of this medication, a complete and sustained remission can be observed without the use of any psychopharmacologic medication.

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