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## CASE STUDY

### EFAVIRENZ INDUCED DELUSIONAL PARASITOSIS

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#### ABSTRACT

Delusional Parasitosis (DP) is characterized by the unshakeable conviction that small organisms infest the body despite the absence of confirmatory medical evidence. DP can occur in a wide variety of psychiatric disorders. Rarely DP can be drug-induced. A 35-year-old HIV positive woman with a history of epilepsy and tuberculosis is on ART regimen with first line ART combination Zidovudine, Lamivudine and Nevirapine but found to be ineffective and Nevirapine is replaced with Efavirenz. She developed pruritus and believes that beneath her skin parasites are present. Based on physical and psychiatric examination, she was diagnosed as Efavirenz induced delusional parasitosis. Consequently Efavirenz was stopped and she was treated with felt normal Risperidone 1 mg to control delusions. Efavirenz causes psychiatric symptoms as adverse effects, but this is, to our knowledge, the first reported case of Efavirenz induced Delusional parasitosis.

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#### INTRODUCTION

Delusional parasitosis (DP), also known as Ekbom's syndrome (Rapini *et al.*, 2007) is a monosymptomatic psychosis involving a delusion of being infested with parasites (Driscoll *et al.*, 1993). Patients with DP believe that insects, worms or other small pests live in their bodies and feed on them. (Ford *et al.*, 2001) Very often the imaginary parasites are reported as being "bugs" or insects crawling on or under the skin; in these cases the experience of the sensation known as formication may provide the basis for this belief. Visual or tactile hallucinations consistent with thoughtful content can accompany the delusions. DP is typically observed in women over the age of 50 although isolated cases among men have been reported. (Ait-Ameur *et al.*, 2000) It can be classified as primary or secondary according to etiology. Primary DP is a psychiatric disorder, whereas secondary DP is currently thought of as a symptom rather than a disorder. In the latter case, the delusion is secondary to another psychopathology or a medical illness. (Lyell, 1983), (Barsky and Borus, 1999) Secondary DP has been associated with diseases and malignancies of the hematopoietic, pulmonary, cardiac, renal, gastrointestinal and endocrine systems, infections of the central nervous system, and nutritional deficiencies including vitamin B12, folate and pellagra. (Driscoll *et al.*, 1993), (Barsky and Borus 1999) However, the causal role of the underlying disorder has rarely been elucidated. (Barsky and Borus 1999)

#### Case Report

A 35-year-old HIV positive woman presented to the emergency department (ED) with complaints of "lice and bugs" crawling under her skin in the palms from past 2 days. Upon presentation to the ED, she stated that she had visited the ART center two days before for her routine checkups and her antiretroviral regimen was changed by replacing Efavirenz instead of Nevirapine along with Zidovudine and Lamivudine. Initially she had only been itching, with a feeling of crawling under her skin, but upon presentation to ED she reported that bugs were crawling "all over" her. She denied any history of psychiatric hospitalization or suicide attempts. Past medical history was epilepsy, vomiting, loss of weight and diarrhea. Physical examination showed multiple papular-like lesions, on palms, arms, and legs, bilaterally (Figure 1).



Figure 1. Papular like lesion on the arm

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There were no signs of acute infection, oozing, or larvae. No erythematous skin rashes were noted. Significant labs included hemoglobin of 9.8 gm/dL. Mental status examination showed a middle aged female, dressed in appropriate clothes, but disheveled, with unkempt hair and multiple skin lesions. Her manner was cooperative and pleasant, but with mild psychomotor agitation noted. Her mood was described as "sad," effect was. The thought process was circumstantial and illogical, and was positive for evidence of delusions and paranoia. Her cognition was intact with well-oriented adult woman who is able to attend and concentrate to basic screening questions. She was diagnosed with drug induced delusional parasitosis and was hospitalized in the psychiatric unit. Efavirenz was weaned off and Risperidone 1 mg at bedtime was started for delusions, which was up titrated to 3 mg at bedtime to optimally control her delusions.

## DISCUSSION

Ekbom syndrome or delusional parasitosis, is described mainly in presenile women who are unmarried or living alone. The presenting dermatological symptom is persistent pruritus, and the patients often take medical advice from several practitioners one after another. (Bourée *et al.*, 2007) Delusional parasitosis is a somatic type delusional disorder in which sufferers maintain a fixed false belief that they are infested with parasites. It is usually diagnosed as delusions of somatic type, a subtype of delusional disorder. The mean age of onset is 56.9 years, and the male-to-female ratio is 1:1.5. (Zomer *et al.*, 1998) Patients describe a parasitic invasion on or inside the skin; they may bring in objects such as hair, lint, or skin, "the matchbox sign," as proof of the infestation despite normal findings on examination. (Le and Gonski, 2003) Management initially involves ruling out a general medical condition and excluding the use of drugs, illicit or prescribed. Pimozide, a dopamine antagonist, is the traditional treatment, although some patients may respond to neuroleptics such as haloperidol or risperidone. Duration of treatment varies from 2 weeks to 3 months before use is tapered, but compliance can be challenging. (Zomer, *et al.*, 1998) Careful strategy is required to convince patients with delusional parasitosis of the importance of a psychiatric referral.

## Conclusion

Delusions of parasitosis remain an interesting and challenging problem for primary care providers and psychiatrist. It is a delusional disorder of a somatic subtype in which patients believe they are infested. It may be that treatment of DP depends on clarifying the etiology and that atypical antipsychotics may help in the management. Drug induced Delusional parasitosis although reported, but still proper psychological history is to be correlated before diagnosis and management.

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