



(CASE REPORT)



## Delusional parasitosis (Ekbom Syndrome): A case report

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### Abstract

**Background:** Ekbom syndrome or Delusional Parasitosis (DP) is an infrequent psychotic illness, where the patient has a false but firm and strong belief that his body is infested with parasites, worms, insects, or other organisms. This is a monothematic delusion of hallucinatory origin that typically affects older women.

**The aim:** To report two cases of DP.

**Case report:** The first patient presented a generalized sensation of parasite infestation following ischemic stroke. In the second case, the delusions of parasitosis were concentrated in the head only.

**Conclusion:** Delusional parasitosis (DP) or Ekbom syndrome is an infrequent psychotic illness. Collaboration between dermatologists and psychiatrists is important in managing this rare disease. Neurologists must be aware of DP in patients with stroke.

**Keywords:** Ekbom syndrome; Delusional parasitosis; Unwavering conviction.

### 1. Introduction

Ekbom syndrome or Delusional Parasitosis (DP) is an infrequent psychotic illness, where the patient has a false but firm and strong belief that his body is infested with parasites, worms, insects, or other organisms [1-3]. DP was described mainly in the fields of psychiatry and dermatology, with a complex diagnostic and therapeutic approach. DP was first mentioned around 1937–1938, when Karl Axel Ekbom, a Swedish neurologist, described it as the pre-senile delusion of infestation [2,4].

Two cases of Ekbom Syndrome are reported, and the main characteristics of this illness are briefly summarized.

### 2. Case 1

A 72-year-old man was referred for generalized chronic pruritus that he believes is caused by an ants' infestation. The symptoms started one year before the presentation (soon after a transient ischemic stroke) with the perception that macroscopic parasites were crawling over her body, biting her face, head, and legs. Many medical consultations were done because of his generalized chronic presumed pruritus. The patient starts to get his daily washing two or three daily. Many dermatologists proposed many treatments and topics and medical cosmetic shampooing to reduce these leg and scalp lesions. Exhaustive metabolic and blood tests were normal. He was on Citalopram 20 mg daily. After five months this conviction of infected sensation was reduced and disappeared after seven months. The citalopram was reduced to 10 mg daily for four months.

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### 3. Case 2

A 75-year-old female presented a strong conviction that the ants are ground in her hair. This invasion is maximum at night and she needs scratch parasite in her scalp. The patient voluntarily showed her hair and repeated the scratching to kill the parasite. This repeated movement provoked a dermatological lesion of red and irritative hair (**Figure 1**). Delusions of parasitosis were concentrated in the head. Her Neurological examination and laboratory tests were unremarkable. The patient was treated with Citalopram at the dose of 20 mg daily for seven months. Two seances of psychotherapy by week were done. After this therapy, her delusion of parasitosis has reduced. Citalopram was reduced. Delusions of parasitosis were reduced. Seance of cognitive behavioral therapy was included in the first month and during five months.



**Figure 1.** Photo of the second case showing her scalp: The patient voluntarily showed her hair and repeated the scratching to kill the parasite. This repeated movement provoked a dermatological lesion of red and irritative hair. Ekbom syndrome

### 4. Discussion

Ekbom syndrome, alternatively termed delusional parasitosis (DP) or delusional infestation, represents a monothematic delusion with a hallucinatory mechanism that typically affects women of advanced age. The first patient presented a generalized sensation of parasite infestation. In the second case, the delusions of parasitosis were concentrated in the head only.

Risk factors and contributing conditions: socioeconomic problems, divorce, a very stressful lifestyle, female gender, and old age. Signs of cortical atrophy and vascular encephalopathy in elderly people can be linked to the risk factors in this case, independently of neurocognitive disorders. Our first case presented DP in the following ischemic stroke [2,5,6].

Epidemiology: It is considered a rare disease. Prevalence and incidence data may vary depending on the region [4]. For the American continent, the initial studies concluded that the rate of delusional infestation is 1–1.9 per 100,000 person-years, and the average age at diagnosis is 61 years. 75 % of the patients were females.

Ekbom syndrome and infestation delusions are not specified in the International Statistical Classification of Diseases and Related Health Problems and the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (ICD-10, DSM-5). It is a monothematic delusion with a hallucinatory mechanism [4,5,6].

Clinical: Dermatologists often play a pivotal role in diagnosis, as patients first seek dermatological assessments of their signs and symptoms. The diagnostic complexity is attributed to patients' resolute convictions, leading to delayed psychiatric intervention. The physician must consider any pathological antecedents and medication that is taken before the onset of symptoms [7]. The main symptoms of DP include delusions and tactile hallucinations (unusual cutaneous sensations such as "biting" or "crawling" on the skin or other parts of the body). Lesions dermatologic are often present due to repeated scratches, washing, or scraping. Including mostly skin flakes [3,5,7]. Another common

symptom mentioned is the discomfort that the patients and families feel in their own houses. Which leads to repetitive abnormal house-moving actions. Our first patient takes frequently two or three showers daily.

**Diagnosis:** To confirm a diagnosis of DP, the patient to meet the following two criteria: conviction of being infested despite evidence to the contrary and abnormal cutaneous sensations attributed to this belief [2-5]. Dermatologists because, although further investigations rule out a possible infestation, patients are convinced by their evidence and refuse psychiatric examinations.

**Physiopathology:** Delusional parasitosis is classified as a delusional disorder in the Diagnostic and DSM5. The pathophysiological mechanism is still uncertain. Its pathophysiological mechanism involves uncertain dopaminergic imbalances and dysfunction in the dopamine transporter system [2,3,6,8].

**Management:** no standard of treatment has been established. First-line DP treatment involves antipsychotics, with newer agents demonstrating promising prospects, but the lack of standardized protocols poses a significant therapeutic challenge. Various case reports recommend antipsychotics as the first line of treatment. Antipsychotics show good remission of symptoms. Several additional investigations also proposed that combining an atypical antipsychotic with a selective serotonin reuptake inhibitor, such as fluoxetine, could be more effective [3].

According to Lu JD and al., in their Systematic Review [8] overall, aripiprazole had the highest complete remission rate at 79%. Among drug classes, selective serotonin reuptake inhibitors were the most effective with a 79% complete remission rate and 43% partial remission rate in patients with comorbid depression or anxiety [3,5,8].

A multidisciplinary approach is necessary. A dermatological examination must always be performed because DP can lead to different self-induced cutaneous lesions, which require additional treatment most of the time. Also, collaboration between dermatologists and psychiatrists is important. Delusions and hallucinations can also be experienced by patients in the prodromal stage and early stages of dementia [1,2,5]. Neurologists must be aware of DP in patients with stroke.

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## 5. Conclusion

Delusional parasitosis (DP) or Ekbom syndrome is an infrequent psychotic illness, where the patient has a false but firm belief that his body is infested with parasites. Collaboration between dermatologists and psychiatrists is important in managing this rare disease.

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## Compliance with ethical standards

### *Disclosure of conflict of interest*

The authors declare that they have no conflicts of interest.

### *Statement of informed consent*

The patient and his family gave his informed consent and verbal permission to publish his case.

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