



Case Report: Ekbom Syndrome Presented with Shared Psychotic Disorder

Sarah A. Mardhiyah*, Elmeida Effendy

Department of Psychiatry, Faculty of Medicine, Universitas Sumatera Utara, Medan, Indonesia

Abstract

Edited by: Branislav Filipović
Citation: Mardhiyah SA, Effendy E. Case Report: Ekbom Syndrome Presented with Shared Psychotic Disorder. Open Access Maced J Med Sci. 2022 Apr 05; 10(T7):126-129. https://doi.org/10.3889/oamjms.2022.9239
Keywords: Ekbom syndrome; Delusional parasitosis; Shared psychotic disorder
***Correspondence:** Sarah A. Mardhiyah, Department of Psychiatry, Faculty of Medicine, Universitas Sumatera Utara, Indonesia.
E-mail: sarahmardhiyahnasution@gmail.com
Received: 27-Dec-2021
Revised: 13-Mar-2022
Accepted: 25-Mar-2022
Copyright: © 2022 Sarah A. Mardhiyah, Elmeida Effendy
Funding: This research did not receive any financial support
Competing Interests: The authors have declared that no competing interests exist
Open Access: This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0)

BACKGROUND: Ekbom syndrome, which is also known as delusional parasitosis, is an infrequent psychotic disorder that is marked by a very intense and strongly unshakeable false belief that there is a parasitic infestation, usually occurring on or beneath the skin, even though there is no medical proof to explain it. This phenomenon can also present with a shared psychotic disorder which eventually is very rare, accounting for only 5–15% of psychiatric cases worldwide.

CASE PRESENTATION: Mrs. Z, a 56-year-old woman, consulted the emergency unit of Universitas Sumatera Utara General Hospital along with her daughter, complaining of serious itchiness and skin problem due to crawling bugs and worms beneath her skin. Mrs. Z appeared furious, agitated and hyperventilating. Her daughter also admitted that she has the same skin condition. They have tried to appoint a consultation to several doctors but did not get any "appropriate" explanation. 1 ml of Haloperidol (5 mg/ml) was initially administered through IM injection to calm Mrs. Z, and oxygen was given to help ease her breathing. We then advised Mrs. Z and her daughter to visit our psychiatry outpatient clinic on the next day. Through a careful interview, we found that Mrs. Z experienced Ekbom syndrome or delusional parasitosis that is also shared with her daughter. Both were given risperidone with an initial dose of 1 mg/day and sertraline 50 mg/day.

CONCLUSION: We found a rare case of delusional parasitosis presented with shared psychotic disorder among a mother and a daughter. Initiation of psychiatric therapy is quite challenging, as patients often refuse due to stigmatization and their firm belief that instead of psychiatric illness, they actually have a parasitic infection. A multidisciplinary approach and strong patient-therapist relationship are a necessity in treating this type of patient.

Introduction

Ekbom syndrome, which is also known as delusional parasitosis (DP), is an infrequent psychotic disorder that is marked by a very intense and strongly unshakeable false belief that there is a parasitic infestation, usually occurring on or beneath the skin, even though there is no medical proof to explain it [1]. DP is most commonly found in middle-aged isolated women and can also present with a shared psychotic disorder which eventually is very rare, accounting for only 5–15% of psychiatric cases worldwide [2]. Individuals with DP often experience real and distressing tactile or visual hallucinations of crawling bugs, worms, or any parasites underneath their skin. During a consultation, these individuals are capable of giving an intricate description of their condition; sometimes even bring their "matchbox," which is actually a specimen which these patients collected in a box, tube, bottle, or Ziploc bag, that they believe as the source of pests infesting on their body [3]. A specimen can be hair, dust, fibers, clothes, or even the patient's skin debris. They will intensively hold their belief and try to convince their doctors that real parasitic infection is going on in their skin [4].

Most of them appear to have secondary skin lesions such as excoriations and scars. Often these patients only rely on over the counter medication to help relieve their skin condition, such as an antihistamine or any oil, lotion, or soap preparations that are thought to be able to help their skin condition [4], [5]. Temporary improvement thus signifies their false belief, making it more challenging for the clinician to help them. Most patients even stop complying with their clinician's advice and think that they are under stigmatization for having a psychiatric illness [5].

Case Presentation

Mrs. Z, a 56-year-old woman, consulted the emergency unit of Universitas Sumatera Utara General Hospital along with her daughter, complaining of serious itchiness and skin problem due to crawling bugs and worms beneath her skin. Mrs. Z appeared furious, agitated and hyperventilating. Her daughter, Mrs. HN, a 37-year-old widow, also admitted that she has the same skin condition. The physician initially

gave 1 ml of Haloperidol (5 mg/ml) through IM injection to calm Mrs Z, and oxygen was given to help ease her breathing. We then advised Mrs. Z and her daughter to visit our psychiatry outpatient clinic the day after.

Through a careful interview, Mrs. Z and Mrs. HN were fully oriented and did not present with any agitation or troubled psychomotor or impulse control. Both talked politely, and the speech content was relevant. There was no memory or concentration impairment. Mrs Z admitted to experiencing intense, persistent pruritus, particularly at night which disturbs her sleep most of the time. Pruritus is accompanied by the real sensation of something crawling under her skin which she believes is bugs or worms. She described: *“For God’s sake, I can see and feel them crawling, like zig-zag under my skin, on hand, and sometimes they reach my tights. Whenever they are present, my skin turns red, and I feel so itchy like hell I just want to scratch them out of my skin.”*

Interestingly, our patients also brought a transparent plastic jar with them (Figure 1). Mrs Z tried convincing us that the specimen she collected is responsible for her condition, and even though invisible, the dirt may be full of microparasites. When we asked from where she collected the specimen, she admitted that it was from all over the house, including her toilet, her terrace, and under her bed.



Figure 1: Transparent plastic jar brought by Mrs. Z to convince us that there is real parasites infecting her. Specimen was sent to parasitology lab and it was confirmed that it was only some dirt and soil debris

She also admitted that many times she could even touch them, but they are too small and fast, that she cannot catch them. Mrs. Z appeared to be very uncomfortable when telling this story and that she feels shame and is scared of others labeling her “crazy.” Washer symptoms started seven months earlier when her husband passed away due to complications of diabetic foot ulcer. Along with her widowed daughter, Mrs HN, both were occupied in taking care of the father. Mrs Z denied feeling depressed and firmly stated that she already accepted the death of her husband. To this date, Mrs Z and her daughter admitted to not having any close friends and earning a living from taking rents from their properties. Mrs Z believes that clothes

and bed sheets that were previously used by her late husband might have transmitted the parasites to her and her daughter.

Mrs HN, 37 years old, came to her parent’s house after her husband passed away a year ago. Losing her husband and father has been hard for her, but she admitted that she already can accept it now. The only problem is that she also experienced the same skin condition as her mother’s for recently 5 months. Even after burning and throwing away her father’s clothes and bed sheets, the symptoms did not disappear. She then believes that it was the bed that may transmit the parasites, thus now both Mrs HN and her mother sleep in Mrs HN’s room.

Both mother and daughter presented with scarred and excoriated arms and legs and admitted that itchiness was more severe at night. They acknowledged that they had been to many doctors, including dermatologists, but doctors always told them that there is no problem with their blood or skin condition. They no longer sought consultation and relied on self-bought medications, such as antihistamine, dexamethasone, camphor oil, sulfur-based soaps, and lotions, which only helped to relieve their symptoms temporarily. Due to her skin condition, Mrs HN is even more seldom going out of the house, as she worries about embarrassing herself in front of neighbors.

We ordered laboratory tests for them and even persuaded them to have their skin checked by a dermatologist (-refused). The blood test was normal; anemia, hypereosinophilia, high random blood glucose were all excluded from the study. Urinary tests for substance abuse showed negative results. Both are also devoted Catholics and do not drink any alcohol. Any coexisting or history of psychiatric illness was denied.

Therefore, it was concluded that the mother and daughter share the same delusions of having parasitic infestation on their skin, in which Mrs Z serves as the inducer to Mrs HN. Both were given risperidone with an initial dose of 1 mg/day and sertraline 50 mg/day and were planned for a second visit for follow-up within 2 weeks.

Discussion

Our patients exhibited delusion in which they strongly believe that there is real parasitic infestation underneath their skin. Matchbox sign that is typical for Ekbom syndrome was found, along with intense pruritus, which is also commonly found in DP. The mother, Mrs Z, already experienced the symptoms for

seven months while the recipient, Mrs HN, experienced the symptoms for the past 5 months. Both have a very close mother-daughter relationships, and they admitted to not having many friends and seldomly going out of the house. Mood disorder was excluded as both admitted to being able to accept the loss of their loved ones. This typical presentation is matched with ICD-11 (International Classification of Disease-11) criteria for Delusional Disorder (6A24). According to these criteria [6];

"Delusional disorder is characterized by the development of a delusion or set of related delusions that persist for at least 3 months (usually much longer), which occur in the absence of a Depressive, Manic, or Mixed mood episode. Other characteristic symptoms of Schizophrenia (e.g., persistent auditory hallucinations, disorganized thinking, and negative symptoms) are not present, although various forms of perceptual disturbances (e.g., hallucinations, illusions, and misidentifications of persons) thematically related to the delusion are still consistent with the diagnosis. Apart from actions and attitudes directly related to the delusion or delusional system, affect, speech, and behavior are typically unaffected. The symptoms are not a manifestation of another disorder or disease that is not classified under mental, behavioral or neurodevelopmental disorders (e.g., a brain tumor) and are not due to the effect of a substance or medication on the central nervous system (e.g., corticosteroids), including withdrawal effects (e.g., alcohol withdrawal)".

Furthermore, we also found that both of our patients have a very close relationship and that they shared the same delusions with contextual or temporal evidence that the delusion was transmitted from the inducer (Mrs Z) to her daughter (Mrs HN) as in accordance with diagnostic criteria of Shared Psychotic Disorder from ICD-10 (F.24) [7].

Ekbom syndrome is known to present as a primary or secondary disorder. Primary Ekbom syndrome refers to the presence of delusion of parasitic infestation without any psychiatric or organic disorder (which is in line with our patient's presentation). On the other hand, secondary, Ekbom syndrome indicates that there is also other coexisting mental or organic disorders accompanying the presence of Ekbom syndrome, including schizophrenia, depression, dementia, phobia, anemia, diabetes, and cocaine abuse [8], [9]. Therefore, we ruled out this possibility by ordering blood tests which came back with normal results. There was not any known established explanation on how this disorder develops, but currently, it is hypothesized that impaired striatal dopamine transporter (DAT) that corresponds to increased dopamine level could potentially induce this disorder. Investigations using drugs that inhibit dopamine reuptake, such as amphetamines,

methylphenidate, and cocaine, have shown to induce symptoms of delusion [10]. There is no consensus of antipsychotic dosage used to treat this condition, but literature showed that risperidone and olanzapine are the most commonly used antipsychotics for DP [11]. Olanzapine, on the other hand, is not recommended as first-line therapy; as an alternative, aripiprazole can be used, as it exerts very little side effect in metabolic syndrome and weight gain [12].

Conclusion

We found a rare case of delusional parasitosis presented with shared psychotic disorder among a mother and a daughter. Initiation of psychiatric therapy is quite challenging, as patients often refuse this due to stigmatization and their firm belief that instead of a psychiatric illness, they actually have a parasitic infection. A multidisciplinary approach and strong patient-therapist relationship are a necessity in treating this type of patient.

References

1. Hinkle CN. Ekbom syndrome: The challenge of "invisible bug" infestations. *Annu Rev Entomol.* 2010;55:77-94. <https://doi.org/10.1146/annurev.ento.54.110807.090514>
PMid:19961324
2. Prakash J, Shasikumar R, Bhat SP, Srivastava K, Nath S, Rajendran A. Delusional parasitosis: Worms of the mind. *Ind Psychiatry J.* 2012;21(1):72-4. <https://dx.doi.org/10.4103%2F0972-6748.110958>
PMid:23766584
3. Bellanger PA, Crouzet J, Boussard M, Grenouillet F, Sechter D, Capellier G, *et al.* Ectoparasitosis or Ekbom syndrome? *Can Fam Physician.* 2009;55(11):1089-92.
PMid:19910594
4. Mumcuoglu YK, Leibovici V, Reuveni I, Bonne O. Delusional parasitosis: Diagnosis and treatment. *Isr Med Assoc J.* 2020;20(7):456-60.
PMid:30109800
5. Reich A, Kwiatkowska D, Pacan P. Delusions of parasitosis: An update. *Dermatol Ther.* 2019;9:631-8. <https://doi.org/10.1007/s13555-019-00324-3>
PMid:31520344
6. World Health Organization. ICD-11 Version: 2018. Geneva: World Health Organization; 2018.
7. World Health Organization. ICD-10 Version: 2016. Geneva: World Health Organization; 2016.
8. Olivera JM, Ardila PH, Lara ME, Villamil JF, Moreno GL, Gahona CC, *et al.* Delusional infestation-Ekbom syndrome in a woman. *Case Rep.* 2017;3(2):116-24. <https://doi.org/10.15446/cr.v3n2.62754>
9. Alves MJ, Martelli CC, Fogagnolo L, Nassif WP. Secondary Ekbom

-
- syndrome to organic disorder. *An Bras Dermatol.* 2010;85(4):541-4. <https://doi.org/10.1590/s0365-05962010000400018>
PMid:20944917
10. Huber M, Kirchler E, Karner M, Pycha R. Delusional parasitosis and the dopamine transporter. *Med Hypotheses.* 2007;68(6):1351-8. <https://doi.org/10.1016/j.mehy.2006.07.061>
PMid:17134847
11. Kimsy SL. Delusional infestation and chronic pruritus: A review. *Acta Derm Venerol.* 2016;96(3):298-302. <https://doi.org/10.2340/00015555-2236>
PMid:26337109
12. Campbell EH, Elston DM, Hawthorne JD, Beckert DR. Diagnosis and management of delusional parasitosis. *J Am Acad Dermatol.* 2019;80(5):1428-34. <https://doi.org/10.1016/j.jaad.2018.12.012>
PMid:30543832