



A Case Report of Methamphetamine-Induced Delusional Parasitosis



Reza Bidaki^{1,2}, Sina Negintaji³, Mohammad Javad Dehqan³, Fatemeh Saghafi^{4*}, Maryam Naseri Bafrouie⁵, Amir Mohammadi³

1. Department of Psychiatry, Research Center of Addiction and Behavioral Sciences, School of Medicine, Shahid Sadoughi University of Medical Sciences and Health Services, Yazd, Iran.
2. Diabetes Research Center, Shahid Sadoughi University of Medical Sciences and Health Services, Yazd, Iran.
3. Student Research Committee, School of Pharmacy, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
4. Department of Clinical Pharmacy, School of Pharmacy, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
5. Department of Medical Student, School of Medicine, Shahid Sadoughi University of Medical Sciences and Health Services, Iran.

Use your device to scan and read the article online



Citation Bidaki R, Negintaji S, Dehqan MJ, Saghafi F, Naseri Bafrouie M, Mohammadi A. A Case Report of Methamphetamine-Induced Delusional Parasitosis. *Case Reports in Clinical Practice*. 2020; 5(4):110-112.

Running Title: Delusional Parasitosis Related to Methamphetamine



Article info:

Received: 14 October 2020

Revised: 28 November 2020

Accepted: 09 December 2020

Keywords:

Delusional parasitosis; Psychotic disorder; Methamphetamine abuse

ABSTRACT

Psychotic disorders are a group of severe mental disorders that can remarkably affect brain functions by altering beliefs and perceptions. There are different types of psychotic disorders, including schizophrenia, delusional disorder, paraphrenia, etc. The symptoms of a psychotic disorder include delusions, mood swings, difficulty concentrating, unusual behavior, altered feelings, and so on. Symptoms may vary from person to person and change with time. Antipsychotic drugs and psychotherapy can be used in the treatment of psychotic disorders. In this case report, we describe a 39-year-old woman who suffered from methamphetamine-induced delusional parasitosis.

Introduction

Psychotic disorders are mental illnesses that account for almost half of the disease burden in the world's adolescents and young adults. Living with an untreated psychotic

disorder can lead to many complications, such as low self-esteem, depression, and suicidal thoughts. Psychotic disorders can be exacerbated by genetic factors and environmental stressors. They have various types such as schizophrenia, delusional disorders, substance/medication-induced psychotic disorders, and the like [1, 2].

* Corresponding Author:

Fatemeh Saghafi, PhD.

Address: Department of Clinical Pharmacy, School of Pharmacy, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.

E-mail: saghafi.fa@gmail.com; f.saghafi@ssu.ac.ir

Schizophrenia is a mental disorder that usually appears in early adulthood [3]. Delusional disorder is classified as a mental disorder in which patients lose their touch with reality. A delusion is defined as a firm and a false belief based on an incorrect interpretation of reality. Delusional Parasitosis (DP), also known as Ekbom Syndrome (ES), is an unusual delusional disorder characterized by patients' belief that they are infested with a parasite, insects, worms, mites, lice, fleas, or other organisms [4]. DP is divided into three categories: primary, secondary functional, and secondary organic. Several studies have shown that substance-induced psychotic disorder is more common among individuals with primary psychotic disorders [5].

Hallucinations can be part of a primary psychotic disorder or secondary to substance abuse, including alcohol, cocaine, methamphetamine, etc. The delusion of parasitosis is a frequent complaint in heavy daily users of methamphetamine. Along with abstinence from drug usage, dopamine antagonists have shown to help patients with drug-induced DP [6]. There are different types of antipsychotic medications that exert their action mainly through dopamine D2 receptor antagonism [7].

Case Presentation

A 39-year-old woman with a history of imprisonment, drugs and alcohol abuse was admitted to the hospital. She had a history of hospitalization due to the methamphetamine psychosis in which she received several sessions of electroconvulsive therapy. On admission, the patient's primary symptom was a false fixed belief that she was infested by a parasite that she tried to eliminate by drinking alcohol. She believed that a parasite had entered her abdomen and was eating and destroying her intestines. The patient also had a delusion of being controlled and watched by cameras. She was suffering from depression and had an experience of hearing voices. The patient had no history of visual hallucinations. On further psychiatric interviews, the patient revealed that her complaints have started three years ago when she began to smoke crystal meth.

The substance-induced disorder was evaluated for the patient through the Minnesota Multiphasic Personality Inventory test [8]. On the Rorschach test, the patient refused to continue the test with an aggressive attitude after evaluating 3 cards which were evaluated in favor of psychotic features. Subsequently, she was diagnosed with secondary organic delusional parasitosis. During the admission, psychiatric treatment was initiated with risperidone (2 mg/BD), biperiden (2 mg/BD), quetiapine (100 mg/½ h), and citalopram (20 mg/d).

When discharging, the patient was calm, cooperative, and expressed a strong interest in quitting smoking methamphetamine. She was discharged on risperidone (2 mg/BD) with a withdrawal plan while being monitored for the signs and symptoms of recurrence. At her 1-month follow-up visit, the patient showed significant improvements. She had no complaints about parasites. Four months later, in her regular follow up, no parasitosis delusion was noticed.

Discussion

Delusional parasitosis is an uncommon psychotic disorder in which patients develop a false belief that they are infested with parasites, insects, or other organisms. DP can be primary or secondary to other organic or psychiatric diseases. Secondary organic delusional parasitosis occurs when a medical disease or substance use causes the patient's symptoms.

Our case report presents a methamphetamine-induced DP. The patient had a severe presentation and a quick response to treatment. The backbone of treatment for the delusions associated with methamphetamine abuse is abstinence; however, treatment of DP most often involves the antipsychotic such as risperidone, olanzapine, and pimozide. Eventually, prescribing antipsychotic agents along with discontinuation of methamphetamine abuse helped our patient.

Ethical Considerations

Compliance with ethical guidelines

The Ethical committee Shahid Sadoughi University of Medical Sciences approved the study.

Funding

This research did not receive any grant from funding agencies in the public, commercial, or non-profit sectors.

Authors' contributions

All authors contributed in preparing this article.

Conflict of interest

The authors declared no conflicts of interest.

Acknowledgements

The authors would like to gratefully thank the nursing personnel of the Psychiatric Center of Yazd for their assistance.

References

- [1] Heckers S. Who is at risk for a psychotic disorder? *Schizophrenia bulletin*. 2009; 35(5):847-50. [DOI:10.1093/schbul/sbp078] [PMID] [PMCID]
- [2] Jablensky A, McGrath J, Herrman H, Castle D, Gureje O, Evans M, et al. Psychotic disorders in urban areas: An overview of the Study on Low Prevalence Disorders. *The Australian and New Zealand Journal of Psychiatry*. 2000; 34(2):221-36. [DOI:10.1080/j.1440-1614.2000.00728.x] [PMID]
- [3] Kyriakopoulos M, Frangou S. Pathophysiology of early onset schizophrenia. *International Review of Psychiatry (Abingdon, England)*. 2007; 19(4):315-24. [DOI:10.1080/09540260701486258] [PMID]
- [4] Prakash J, Shashikumar R, Bhat PS, Srivastava K, Nath S, Rajendran A. Delusional parasitosis: Worms of the mind. *Industrial Psychiatry Journal*. 2012; 21(1):72-4. [DOI:10.4103/0972-6748.110958] [PMID] [PMCID]
- [5] Wilson L, Szigeti A, Kearney A, Clarke M. Clinical characteristics of primary psychotic disorders with concurrent substance abuse and substance-induced psychotic disorders: A systematic review. *Schizophrenia Research*. 2018; 197:78-86. [DOI:10.1016/j.schres.2017.11.001] [PMID]
- [6] Patricia Frese R, Barbara Kunselman R, Elizabeth McClure R, Janelle Schierling R. Methamphetamine: Implications for the dental team. Crest Oral-B at dentalcare.com Continuing Education Course [Internet]. [Updated: December 16 2019]. www.dentalcare.com/en-US/dental-education/continuing-education/ce332/ce332.aspx
- [7] Lieberman JA, First MB. Psychotic Disorders. *The New England Journal of Medicine*. 2018; 379(3):270-80. [DOI:10.1056/NEJM-ra1801490] [PMID]
- [8] Butcher JN. Minnesota Multiphasic Personality Inventory. *The Corsini Encyclopedia of Psychology* [Internet]. Wiley Online Library. First published: 30 January 2010. [DOI:10.1002/9780470479216.corpsy0573]