

Challenges of Diagnostics and Treatment of Non-Specific Mental Health Disorders in Neurosyphilis

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Summary. Syphilis has been a health hazard worldwide since its existence, often causing long term disability or even death. Even though in Lithuania the incidence of syphilis has been slowly decreasing over several years, we still see many patients with different stages of the disease in the hospital setting. In this article, we present a unique and challenging case of a 52 year-old woman with neurosyphilis with a very polymorphic clinical presentation. We discuss the diagnostic and treatment difficulties, compare our case with the experience of other authors and provide our own findings on this topic.

Keywords: neurosyphilis, organic psychosis, infectious diseases, non-specific mental disorders.

INTRODUCTION

Syphilis is defined as a sexually transmitted systemic disease caused by the bacteria *Treponema pallidum* [1]. Even though the exact origins of syphilis are unknown, it dates back to as early as the 15th century. It is thought, that the disease either came to Europe with Columbus in 1492 or that it originated in central Africa and reached Europe before the Columbian voyages [2]. During its existence, the disease has been a worldwide health concern causing severe mental and physical symptoms and often resulting in long term disability or even death. In Lithuania, the incidence of syphilis has been slowly decreasing, according to the data provided by “Užkrečiamų ligų ir AIDS centras” (Centre of HIV and infectious diseases). During the period of 2013–2017, the incidence has decreased from 9.1 cases per 100,000 persons to 5.6 cases per 100,000 persons [3]. However, we still see patients with different stages of the disease in the hospital setting.

Syphilis can present itself in 4 stages, called primary, secondary, latent, and tertiary syphilis, and can also be congenital [2]. All the stages have very polymorphic clinical

presentations, hence the name “the great imitator” given by Sir William Osler [4].

Neurosyphilis is a form of tertiary syphilis and can manifest itself in various pathologies, notably meningeal neurosyphilis, meningovascular neurosyphilis, parenchymatous neurosyphilis, and gummatous neurosyphilis. Psychiatric symptoms usually manifest in the parenchymatous form of the disease due to neuronal loss. Early psychiatric manifestation usually includes mood disorders and personality and cognitive changes, later on progressing to psychosis and dementia. Neurologic symptoms, such as absent pupillary reaction to light, paralysis, ataxia, seizures, headaches, aphasia, urinary and fecal incontinence are also extremely common in neurosyphilis and often occur with psychiatric signs [5]. Some reported cases show that psychiatric manifestation and behavioral changes were dominant in the clinical picture and made the diagnostics extremely complicated [6].

We would like to present an extremely unique and challenging case of a 52 year-old woman with neurosyphilis which presented as an extremely severe polymorphic psychosis and required a repeated hospitalization and a second course of antibacterial treatment.

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CASE REVIEW

Mrs. P, a 52 year-old woman, was brought to the emergency department of the Republican Vilnius Psychiatry

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hospital by ambulance suspecting an unspecified non-organic psychosis. Her medical history included severe alcohol abuse and a stroke 4 years ago. In the last three weeks she showed aggressive behaviour, was often angry, screaming and breaking things at home. She refused to eat any food, refused to take medicine, and reported that her daughter was trying to poison her. She was hospitalized at the department of somatopsychiatry.

On examination, the patient reported delusions of reference, poisoning and extreme grandiosity. She was convinced that her daughter tried to poison her by mixing some unknown poisonous drops with her food, which caused her jaundice and that it was happening for a month. She reported having large amounts of money, much valuable property; she was convinced that she could get anything she wanted just by showing her brother's photo to bank employees in Lithuania and abroad. She would use the money to help poor people. She was sent by God, who chose her for her special heart. She could hear God's voice through her heart. God could control her speech, movements and thoughts. God would communicate with the world through her. She released the "law of photographs", which was mandatory for Lithuanian and world banks. She perceived the poisoning as a punishment for her popularity.

She understood that she was treated at a mental hospital, however, at the same time, reported leaving for Thailand by plane and the treating physician would be the plane captain. She expected to get herself new dental implants during the trip. Such presentation led us to believe that when the psychosis was at its most severe, the patient experienced the oneiroid state, which suggested that we should revise the diagnosis and look for an organic cause of the psychosis.

Neurological examination was normal. Head CT showed no traumatic or vascular disorders. The patient was started on tiapride 400 mg/d and 25 mg/d of quetiapine P.O. Neurosyphilis was suspected, blood tests showed RPR 1:8 and cerebrospinal fluid showed TPHA 4+, VDRL 1:4; the diagnosis of neurosyphilis was made. The patient was started on penicillin therapy 18 MU (million units) and haloperidol IM 5 mg.

After the administration of treatment, the acute psychosis with extreme grandiosity became predominant. The patient reported feeling chosen by God, meant to care for the poor in the whole world. She stated that she would fly to Thailand to build homes, take care of people, and do everything for free. She reported owning banks and slaughter houses. She was brought to the psychiatric hospital to learn what to change for the better. She planned to demolish the old hospital building and build a new one, to buy new beds and wheelchairs for the hospital. In her thoughts, she organised the christening of her daughter's child, and said she was in charge of a large bank. The grandiose symptomatology was resolved within 18 days of antibacterial treatment. After the treatment, a mild cognitive impairment with a MMSE score of 24 (losing points on short term memory and attention) was observed, as well as asthenia. The first hospitalization lasted 30 days.

The second hospitalization was on April 27, 2018 (after 10 months). The patient was brought to the emergency department of the Republican Vilnius Psychiatry hospital by ambulance. She was hospitalized at the department of somatopsychiatry. During the katamnestic period, the patient lived in a nursing home, the treatment with haloperidol decanoate and quetiapine was maintained. Two weeks before the hospitalization, the patient showed aggression, refusal to eat and psychomotor agitation (throwing plates on the ground, shouting and screaming).

On examination, extreme delusions of grandiosity were observed, including ideas of being absurdly rich, having special powers, being on a special mission, as well as euphoria, exaltation and auditory hallucinations. Treatment with tiapride 200 mg/d P.O. and quetiapine 25 mg/d P.O. was started. Olanzapine 5 mg/d P.O. was added and titrated to 15 mg during a week, quetiapine discontinued. Even though the patient was treated for 29 days with large doses of antipsychotics, severe psychotic symptoms remained intact.

During the course of treatment, the patient reported being very famous in Lithuania and world banks, having a "golden pass" which allowed her to get any amount of money. She declared herself holy, God chose her because of her special heart. She had a mission to visit nursing homes, schools, kindergartens and use her money to do good deeds. She claimed she could predict the future; her organs would be changed to golden ones. She reported on the voices in her head of famous Lithuanian singers who were planning to come to the department and have sex with the patients. Next to the grandiosity and expansive delusions, the patient was planning to do a lot of primitive and simple deeds, like helping the staff with wheelchairs and setting the tables. She reported being able to communicate with God through her heart.

Psychotic symptoms remained intact, but the affect has changed. During the course of treatment, changes in the affect from extremely depressive to extremely manic were observed. She reported to be able to talk to the priests throughout the country, because God united their hearts into a common network.

Psychotic symptoms of grandiosity resolved, and depressive hypochondriac symptoms were observed. The patient reported that she was not getting any treatment, that she had cancer, that she would soon die, and that no one could help her. She stated she could communicate with relatives by thoughts, one night she said her grandfather had died and she understood this having heard the thoughts of her relatives, and also could know where the loved ones would be buried. After one month of treatment with antipsychotic medication with little effect, the reinfection of neurosyphilis was suspected, blood tests showed RPR 1:8 and cerebrospinal fluid showed TPHA 4+, VDRL 1:4. Antibacterial treatment was started with penicillin therapy 18 MU (million units) for 21 days. Psychotic symptoms resolved, however depressive symptomatology remained, the patient complained of hopelessness, anxiety, depressive thoughts about the future. Treatment with

mirtazapine 30 mg/d P.O. was added with 10 mg/d olanzapine P.O.

Depressive symptoms resolved, although upon discharge organic personality changes, and impaired cognitive functions were observed with a MMSE score of 25. The patient was discharged from the hospital after 63 days of treatment.

DISCUSSION

This manifestation of neurosyphilis was defined by a very polymorphic spectrum of psychiatric disorders. During the most severe phase of the disorder, acute paraphrenic syndrome and oneiroid states were observed. They persisted in spite of continuous high doses of antipsychotic medication. During the course of treatment, the affect changed to depressive with congruent psychotic symptoms. During both hospitalizations, the patient's mental state remained severe in spite of antipsychotic treatment until the reason of the organic disorder was confirmed and the patient was started on specific antibacterial (etiopathogenetic) treatment. The symptoms resolved slowly; low mood, hopelessness, anxiety, and depressive thoughts were observed for a few weeks. During her recovery, asthenic syndrome was observed and at the end of the treatment psychorganic syndrome with mild cognitive impairment was observed.

Our case illustrates that symptomatic (organic) mental disorders manifest in non-specific symptoms, ranging from neurotic and personality changes up to severe oneiroid disorders.

It is common that during the course of the disease the patient can experience different psychopathologic syndromes. Our case illustrates that the more severe the organic lesion is, the more severe the psychiatric syndrome manifests. In our presented case, during the specific treatment with antibacterial and antipsychotic treatment, the patient's mental state was getting better and the syndromes were becoming less severe. However, it is also important to note that if the syndromes progress in the course of treatment, especially if we begin to notice catatonic symptoms or disorders of consciousness, it is very important to revise the diagnosis and look for other possible causes of the symptoms.

The challenge in such cases is to make a correct diagnosis, since there is no gold standard in these cases, and it is very important to differentiate between a very broad spectrum of possible neuroinfections, oncologic (paraneoplastic processes), autoimmune disorders (i.e. encephalitis), intoxications, vascular and post-traumatic disorders of the central nervous system, etc. In our case, such a broad differential was not required, since we quickly managed to identify the main cause of symptoms – i. e., neurosyphilis. We thought of neurosyphilis because of severe alcohol abuse and a stroke in the patient's history. The alcohol abusers are in the risk group for this infection and a stroke

in young age (48 year-old) suggests possible vascular neurosyphilis.

It is important to note, that the patient presented with acute psychotic symptoms and neurosyphilis was diagnosed during the first hospitalization, however the antipsychotic treatment was not effective neither the first, nor the second time. We should always keep in mind the possibility of reinfection and its manifestation with psychiatric symptoms.

The findings of other authors also support the extremely polymorphic manifestation of neurosyphilis. Hung et al. (2013) reported a similar case with severe psychotic symptoms and a failure of general psychosis treatment with antipsychotic medication. The authors also note the difficulty to differentiate between organic and non-organic psychoses, and the margin for error here is high [7]. Another similar case was reported by Seo et al. (2018) where the patient had acute psychotic mania with delusions of grandeur, euphoric mood, hyperactivity, and hallucinations. The case also illustrates that specific antibacterial treatment leads the patients to remission very quickly and effectively [8]. Crozatti et al. (2015) reported a case with a different clinical course – the manifestation of the disease was of a depressive nature with suicidal thoughts and cognitive disturbances. What is also interesting, is that during the course of treatment, some psychotic symptoms, particularly paranoid ideation and persecutory delusions appeared, which would also support the idea of the extreme unpredictability of neurosyphilis. The symptoms also markedly improved only with antibacterial therapy and an adjunctive antipsychotic [9]. From these cases, we can see that the clinical presentations of the disease vary greatly and the likelihood of misdiagnosis remains high, and conventional treatment with antipsychotics or antidepressants is not effective.

Our case, as well as the cases of other authors illustrate that treatment with psychotropic medication remains ineffective in organic mental disorders caused by neurosyphilis, until specific antibacterial therapy is started. Precise and quick diagnostics gives the best outcome for the patient. It is a daily challenge to differentiate between such a broad spectrum of pathologies causing non-specific polymorphic mental disorders.

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NESPECIFINIŲ PSICHIKOS SUTRIKIMŲ, SERGANT NEUROSIFILIU, DIAGNOSTIKOS IR GYDYMO IŠŠŪKIAI

Santrauka

Sifilis nuo seno visame pasaulyje buvo itin rimta ir pavojinga liga, dažnai pasibaigianti ilgalaikiu neįgalumu ar net mirtimi. Nors sergamumas sifiliu pastaraisiais metais Lietuvoje po truputį mažėja, stacionare vis dar gydome daug pacientų, sergančių įvairiomis šios ligos formomis. Šiame straipsnyje pateikiame unikalų ir sudėtingą 52 m. moters, sergančios neurosifiliu, pasireiškiančiu itin polimorfišku klinikiniu vaizdu, atvejį. Aptariame diagnostikos ir gydymo problematiką, palyginame savo atvejį su kitų autorių patirtimi ir pateikiame savo įžvalgas šia tema.

Raktažodžiai: neurosifilis, organinė psichoze, infekcinės ligos, nespecifiniai psichikos sutrikimai.

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