

# Induced Psychosis or Psychotic Relapse? – An Unexpected Effect of Anti-Parkinson Treatment

András Kovács MD, Attila Kovács MD, Edina Hamvas PhD, Zsuzsanna Szabó MD, Zsófia Bodó-Varga PhD, Tamás Tényi\* MD, PhD

Department of Psychiatry and Psychotherapy, University of Pécs, Faculty of Medicine, Pécs, Hungary

**ABSTRACT:** *Induced or shared psychosis is one of the rare psychiatric disorders in which an inductor, suffering from a psychotic disorder induces a psychotic condition - with similar symptoms - in a person with strong emotional attachment (the recipient). Diagnosis is based on strict criteria, therefore it is essential to have thorough knowledge of the inductor's and the recipient's medical history. In our case, we examined an elderly couple – both 83 years old – with newly formed, thematically identical acoustic hallucinations and delusions. During patient interviews it turned out that the husband suffers from Parkinson's disease and the wife was treated in the 1960s with the diagnosis of schizophrenia. Though, based on the medical history the diagnosis of shared psychotic disorder became questionable, we thought it is worth to further examine the interaction of the two patients' psychopathology.*

## CASE REPORT

The elderly couple was admitted to our clinic by ambulance with the same referral of their general practitioner. In the referral, the GP reported that they are both experiencing threatening voices, they even called the police several times in the past few days.

The husband was diagnosed with tremor-dominant Parkinson's disease in 2007 and started to take ropinirole treatment. Later, he began to experience acoustic hallucinations, therefore discontinuation of the drug was recommended. Due to the increasing intensity of motor symptoms, the patient decided to continue the medication and soon the hallucinations returned. One week before his admission he stopped taking ropinirole, but his misperceptions and secondary delusions became so vivid that he rummaged the entire flat searching for the source of the voices, even called the police. He was convinced that he was hearing the voices of a crime gang operating in their apartment house, demanding their money and valuables. The man has never received psychiatric treatment before. His daughter informed us that he served as military officer and used to command his own family in a dominant - frequently aggressive - manner, while the wife has always been in a slave-like status. The daughter has been visiting a psychotherapist till the very day because of the emotional trauma she suffered. We started quetiapine medication (25 mg 3 times a day) and decided not to readminister ropinirole since we believed it could have triggered his psychotic symptoms in the past. In a few days, he became symptom-free, and developed adequate insight into his symptoms and their source.

In the beginning of her admission, the wife was mistrustful and acted in a sensitive-paranoid manner. Despite her advanced age, she was managing her daily chores fairly well, and was taking her medication as prescribed. Later she started to tell about her hallucination which started along with her husband's similar symptoms. She was hearing the same voices, and noticed that unfamiliar persons were inside their flat. She heard multiple male voices asking for their money, and even gave instructions how to hand it over to them. The wife took her misperceptions as reality, other than acoustic hallucinations she also began to experience bizarre somatic sensations. She noticed that every night someone sprays her legs with some sort of chemical, which makes them itch and burn, moreover she believed that her thoughts are tapped and jammed by a device planted "onto" her brain.

From her medical history, we would like to point out, that she was diagnosed with schizophrenia 50 years ago, and was treated in a provincial hospital - even received electroconvulsive therapy several times. The patient confirms that she was indeed treated at a psychiatric ward around 40 years ago, but she is completely fine ever since. She recalls she had similar symptoms back then but they were never this intense and also denies the fact she had an actual condition during her previous treatment.

The elderly couple's only child, their 58-year-old daughter told us that her mother could have been hallucinating before, since she always acted strangely, and used to be very unsociable and mistrustful. The parents have been living very isolated, shutting the outside world out completely of their life. She thought the mother has always obeyed her husband's will like a "loyal servant". She used to visit them every day, and started to notice that as his father's hallucinations became more and more intensive, the mother started to develop her own psychotic sensations and began openly expressing them. These reports further confirm our opinion on the husband's role as the inductor.

The clinical findings suggested that the wife has a moderate cognitive impairment, therefore a CT scan was made, which showed medium grade diffuse atrophy of the brain. Psychological tests indicated mild-level dementia, with an Addenbrooke's score of 55/100 and MMSE score of 20/30. Cognitive impairment was mainly present in frontal functions such as verbal fluency, constructive and executive skills, also recall memory was severely deficient. We also performed a two-profile Szondi-test and the Eysenck Personality Questionnaire, based on their results, the recipient presented herself as an extraverted, emotionally unstable person with narcissistic and subjective – mainly restless, agitated – behavior. Her lack of insight due to her old age is accompanied by stubbornness, impulsivity and marked touchiness. She either projects her anxiety onto the outer world, then reintegrates it in a self-related way or it reinforces her ambivalence resulting in fleeing from stressful situations. These traits usually facilitate a dysphoric, depressive symptomatology, but isolation and reinforcement of projective mechanisms can result in psychotic breakdown. These findings are congruent with the role of the recipient in shared psychosis.

We began risperidone therapy with daily dosage of 2 mg, and conducted individual therapeutic sessions focusing on the reinforcement of reality-testing and insight. Few days after the

\*Correspondence regarding this article should be directed to: tenyi.tamas@pte.hu

husband became symptom-free, her psychotic symptoms also began to decrease, by the time of discharge they could not be explored.

## DISCUSSION

Induced or shared psychotic disorder is a rare psychiatric condition which was first described by Primrose (1651), Hofbauer (1846) and Baillarger (1860) (Enoch & Ball, 2001). The name “folie a deux” originates from Lasague and Falret (1877). Typically it develops in two persons of strong emotional attachment (siblings, marital partner, parent-child) who live separated from the outside world. Rarely, it can include three or more persons (folie a trois) or even an entire family (folie a familie) (Enoch & Ball, 2001; Lasague & Falret, 1877). ICD-10 codes it as induced delusional disorder, while in DSM-IV it was listed as shared psychotic disorder. In DSM-5 induced psychotic disorder is no longer a separate diagnostic entity, it is noted as a subtype of delusional disorder.

For the diagnosis of induced psychotic disorder it is necessary to identify an inductor suffering from a psychotic disorder who acts as a dominant agent in their interpersonal relation and one or more recipient in submissive position. They usually live in a symbiotic relationship, isolated from their surroundings (Tényi, 2009). The inductor is usually diagnosed with delusional disorder or schizophrenia, or seldom with an organic psychotic disorder, for example organic hallucinosis and alcohol-induced psychotic disorder (Tényi et al., 1999), metilfenidate-abuse (Greenberg, 1956) or even Huntington's (Roth et al., 2009). Although the recipients usually show submissive, dependent traits - sometimes reaching the severity of personality disorder, subclinical paranoid behavior is also possible. The estimated prevalence of mental retardation is roughly 20-30% among recipients, and around 25% of them suffer from some sort of physical handicap - mostly sensory - that further increase their vulnerability towards the inductor (Tényi, 2009). Thematically persecutory and grandiose delusions are most common, but transference of hallucinations is also possible (Tényi et al., 1999; Dantendorfer et al., 1997).

In our case, we would like to point out the role of the inductor suffering from an organic psychiatric disorder, and also highlight the fact that a case reporting an inductor with Parkinson's disease is yet to be published.

Parkinson's disease - also known as primary or idiopathic parkinsonism - is a neurodegenerative disorder of the central nervous system, which mainly affects the nigro-striatal dopaminergic system. The best known symptoms are the motoric ones (brady-hypokinesia, rigor, tremor, postural instability), but psychiatric conditions (cognitive impairment, psychosis, depression, anxiety) have the same, or even greater impact on quality of life (Sandeep et al., 2015). Next to Alzheimer's disease, Parkinson's is one of the most common neurodegenerative disorders, with a prevalence of 0.3% of the whole population. Over the age of 60, it affects approximately 1% of the population, while over 80, its prevalence can reach as high as 4% (Van Den Eden et al., 2003).

Statistical data on psychosis in Parkinson's disease show significant variance, different studies claim an estimated prevalence between 16-75% (Sandeep et al., 2015). Among psychotic symptoms, visual hallucinations have the highest prevalence of 16-38%, acoustic hallucinations and delusions occur in 0-22% and 1-14% of patients, respectively. Minor psychotic symptoms, such as sense of presence, passage hallucinations and illusions are reported in 17.4-72% of the cases (Sandeep et al., 2015). Etiology of psychotic symptoms in Parkinson's disease is not fully understood, it is widely considered as side-effect of anti-parkinson medication (especially direct dopamine agonists), although numerous different predictive factors have been identified. Gilles et al. described three main risk factors such as cognitive deficits (MMSE<24), daytime somnolence and duration of disease over 8 years (Gilles et al., 2000). Several

other possible predictive symptoms are reported in the literature such as rapid rate of progression, postural instability, sleep-wake disturbances, affective symptoms, anxiety, family history positive for dementia, visual impairment (Sandeep et al., 2015).

Comparing the findings of our case report and the criteria of induced psychosis we can assume that diagnosis of folie a deux cannot be made with certainty, still, the case raises a few interesting questions. Firstly, if induced psychosis remains as a nosological entity in future classifications we should consider broadening the diagnostic criteria. As seen in the case, the diagnosis of folie a deux became dubious since the recipient may have been suffering from an independent psychotic disorder, however, both the course of symptoms and the psychodynamic-social background matches the classic criteria. If we accept her diagnosis made 50 years ago, then she was in remission drug-free for decades with residual symptoms that were not interfering with her daily life. In the past month, due to the increasing intensity of the husband's psychotic symptoms she gradually decompensated, after the hallucinations were transferred they started to form shared explanatory delusions. Later, she developed new symptoms, independent from the inductor (bizarre somatic hallucinations and delusions). We hypothesize that like classically written on induced psychosis without the inductor's hallucinations the recipient would have stayed in remission, but her submissive, dependent position with marked tendency for projective mechanisms and their social isolation led to either decompensation or shared psychosis. However, this interpersonal relationship after the husband's symptoms disappeared - obviously besides the antipsychotic treatment - also facilitated the recipient's recovery.

Despite the fact that caregivers burden in Parkinson's disease is a widely known and researched phenomenon (Schrag et al., 2006; Martínez-Martín et al., 2007; Marco D'Amelio et al., 2009) the psychotic symptoms of caregivers and close relatives remain an undiscovered area. Therefore we are convinced it is worth to examine the interaction between patients suffering from psychosis in Parkinson's disease and those living in close proximity with a vulnerability to endogenous psychiatric disorders. Amongst the clients of our clinic, apart from the couple reviewed we know of a case, where a middle-aged schizophrenic woman had been taking care of her elderly husband with Parkinson's disease years prior to her admission. They had been living in a secluded way and when the husband began to develop psychotic symptoms it further aggravated her condition, they even formed secondary delusions (similarly to our current case). Since the couple lived far from our clinic and the husband deceased years before the patient's admission we had to rely on widow's reminiscence.

Considering the significant prevalence of both Parkinson's (and related disorders) and schizophrenia spectrum disorders we have to expect similar cases in clinical practice, especially in the light of the aging of society. Obviously we cannot dismiss the possibility of caregivers developing real induced psychosis. We hypothesize that psychotic relapse or induced psychosis of a close relative worsens the condition of patients with Parkinson's disease with further impairing insight and reality-testing. Thus, compliance and medical adherence is jeopardized which endangers the health of both patients. We would like to further highlight the significance of the early recognition of psychotic symptoms in Parkinson's disease and the careful monitoring of their treatment - especially side effects. The mental health of caregivers must not be neglected, thus for a complex therapeutic approach the effective cooperation of healthcare branches (neurology, psychiatry, primary care, social services) is an absolute necessity.

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