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Interpretation of the resolution of hallucinations in a patient with chronic schizophrenia – case report

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Summary

Aim. This case report is an analysis of the resolution of psychotic symptoms in the context of the theory of psychosis as a state of aberrant salience. According to the theory, both the formation and treatment of psychotic symptoms can be considered in two interconnected dimensions: the neurobiological perspective of dopamine hyperactivity and the subjective perspective of excessive salience.
Method. The case of a patient with chronic schizophrenia, experiencing predominantly auditory hallucinations, is described in this article. The patient has wilfully changed the doses of prescribed medications several times. He then interpreted the presence and disappearance of his hallucinations; he interpreted the "voices" he heard in psychosis as the expression of his being in contact with his "spouse". Any changes in the intensity of his hallucinations, resulting from the modifications in the treatment, the patient interpreted as the expression of the proximity or remoteness of his "spouse" who, according to him, was with him when he heard the "voices" or in heaven when he no longer heard them.
Results. The appearance, resolution and changes in the intensity of the hallucinations experienced by the patient are accompanied by the psychological interpretation of these subjectively perceived changes.
Conclusions. The interpretations that appear after the resolution of active symptoms of psychosis may be bizarre and improbable, but they are cognitive explanations rather than psychotic delusions.

schizophrenia/ pharmacotherapy / subjective aspects

INTRODUCTION

According to a concept proposed by Kapur [1] psychosis may be considered in two aspects, which arise dynamically in mutually inseparable connection. This theory is based on the understanding of psychosis in the way that connects the two dimensions – the dimension of subjective experience with the dimension of phenomena treated as functions of certain areas of the brain. According to this concept, in psychosis the dopaminergic hyperactivity in neuronal mesolimbic tracts is related, at the level of subjective experience, with the state of aberrant salience. In a healthy organism dopamine is released in response to a stimulus, which at the level of individual experience, mediates attaching meaning to the stimulus. In such a case, the neuronal systems, in which dopamine plays the role of neurotransmitter, mediate in giving meaning to stimuli, but do not spontaneously create new meanings perceived by a person. Kapur's theory proposes that in psychosis the dopaminergic system is dysregulated, which leads to the increased activity of the neuronal tracts, in which dopamine works as a neurotransmitter. This is linked, on the subjective level, to the assignment of salience to stimuli. The process takes place independently of the actual meaning of the external stimuli experienced by an individual. What happens is that instead of assigning salience to

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significant stimuli, those which are new or are directed at the individual, there is a distorted (increased) assignment of salience to external stimuli and internal representations. The second element, which remains in close relationship to the hyperactivity of dopaminergic neurotransmission, is the occurrence of delusions. According to this concept, delusions are cognitive explanations, which a person introduces to understand the sense of the state of aberrant salience. Because the delusions are construed by a particular person, they are filled with a particular psychological, family and cultural content, relevant to the psychotic person. What we can find in these delusions is a psychodynamic content, regarding the external world and the world of patient's relationships, which allows us to understand a lot about the patient, because the delusions arise in the patient's mind, based on his or her experiences and perceptions.

In this interpretation, it is fair to suggest that since psychosis is a process consisting of at least two other processes, the resolution of psychosis through treatment cannot, in itself, be one-dimensional. According to this concept, antipsychotics do not change delusions as such. What they change is the neurochemistry of the internal environment and, in further consequence, also the sense of the subjective experience. By blocking dopaminergic hyperactivity, antipsychotics calm the state of excessive salience. Once they are taken, the assignment of excessive salience to external objects and internal representation begins to disappear. After this change, there is a smaller chance of new, distorted saliences arising, and the old ones begin to disappear, but the delusional content has to be worked through by the patient in a psychological sense. We often notice that the patient whose psychotic symptoms begin to disappear is struggling to make sense of his or her previous experiences, in the period of active distortions. There can be various ways of answering the question "What was it?" The first one, most desirable from the point of view of therapy, is to understand psychotic experiences as illness and experience their disappearance in terms of the benefits of taking the appropriate medication. The second is the attempt to rationalize the symptoms of psychosis and their resolution and endow them with an entirely new, this time not psychotic, sense (i.e. understanding previous persecutory delusions and delusions of reference in terms of mobbing) [2]. The third category is creating entirely incorrect, sometimes fantastic, associations and explanations. A hypothetical patient who, for example, felt prosecuted by the secret police, might now, once the persecutory delusions disappeared, produce various explanations of the subjectively experienced change in the way she feels. She might say "I was ill and the medication helped me" or "I was indeed followed before, but now, after the election, they stopped as the political orientation of the people in charge has changed" or "they persecuted me, but now they were defeated by stronger police and sent to another planet".

When the patient says the kind of things quoted at the very end of the last paragraph, she is classified as persistently delusional (chronic delusions). It is without doubt that explanations of this type are the result of perceptions affected by an illness, but in the conception we are considering here it would be helpful to consider whether these are in fact delusions or cognitive explanations of the resolution of psychotic experiences. Based on this concept, we are dealing with delusions in which both the dopaminergic hyperactivity (the biological component of psychosis) and the delusions arising from this hyperactivity occur together. Both elements have to occur simultaneously. Once the psychosis disappears, the patient is compelled to produce explanations. These are supposed to answer the two essential questions: "What was it?" and "why is it that I no longer perceive things in this way?" Another way of understanding the same clinical situation is that in both cases we are dealing with delusions which are modified in the acute and chronic phase of the illness. In this context the second of the phases described here, what actually occur are chronic psychotic symptoms.

Logical consequences of the first model of psychosis described above are two clinical situations. Firstly, there is the situation in which the new distorted saliences, the result of psychosis, are no longer assigned but the beliefs acquired in the psychosis period are still maintained by the patient. Secondly, we have the situation in which the patient produces further interpretations of subjectively experienced changes, based on the previous experiences and the related be-

liefs. This time the subject of interpretation is the disappearance of the symptoms of psychosis.

The case described below illustrates the phenomena discussed here, with reference to the appearance and disappearance of auditory hallucinations in a patient with chronic schizophrenia.

Only a limited element of the patient's treatment is presented here, which illustrates the processes discussed in this article. The complete, more than 30-year long course of treatment is irrelevant to the subject matter of this article. In the fragment of therapy described here, the patient produces quite fantastic and entirely bizarre explanation for the disappearance of his psychotic symptoms, which is deeply rooted in the previously experienced content of his psychosis.

CASE REPORT

The patient has been treated psychiatrically for 35 years with a diagnosis of paranoid schizophrenia, followed by chronic schizophrenia. He has been treated for many years in the Home Treatment Program (HTP) of the Institute of Psychiatry and Neurology. His current mental state is dominated by intensified defective symptoms of schizophrenia; emotional, cognitive and functional deficits. The patient lives with his mother and brother who is also schizophrenic. He does not function independently in any way, does not undertake any constructive activities or maintain contact with people other than his family or the HTP personnel. He requires continuous care, and systematic support and treatment. He lives on disability allowance.

When I took charge of the patient he said that he had been hearing hallucinatory voices "every day for the past 15 years". He displayed changeable, passing referential and persecutory attitudes, which have not, however, affected his functioning in any significant way. The patient complained of not feeling well after taking long acting zuclopenthixol and asked to be put back on Risperidone, which he had taken a few years before. His clinical picture was dominated by vivid daily auditory hallucinations. At this stage, the patient heard the "voice of an angel", although in the past he had also heard the "voice of the devil".

At the patient's request and after consultations with the therapist that he had been seeing for a long time, the treatment was changed to orally taken risperidone, in gradually increased doses, up to 4 mg. To begin with (July 2007) the patient said that he felt better. He said that, generally speaking, he was better and calmer, but with the auditory hallucinations appearing with the same intensity as before. After a few months of taking Risperidone (October 2007) the patient still said that he felt "fine" but talked much more about the changes in the way he felt and interpreted them.

The patient said "generally I feel better", but then he would continue, saying "I feel despair, the voice has always told me what to do; she never said bad things, she always brought me good news, the angel of justice. Maybe she will return, if she loves me she'll be back" (the patient is crying). I miss my voices, she led me and told me the news of heaven". The patient has also told us that he ascribes the voices to his "spouse", who "was an angel" and "led him through his life" "advising" him. At that stage he did not hear any voices, which he interpreted as his "spouse" "being offended". He said: "I think that my wretched life has offended her".

During the next visit the patient said "I'm having a rest now. I've worked for thirty years, and now I am having a rest. My spouse is back. She was received in audience by God so she had to whisper then, but now she is back. We've been married for 15 years and for 15 years I have heard her every day. I am very happy to have received an angel for my wife. The most important thing is that I can hear her. She always brings me good news.". It is likely that the patient reduced the doses of his medication on his own. He might have been taking his medicine irregularly, every second day; it being much less likely that he stopped taking it.

Shortly after, the patient told us that he saw his "spouse" on the bus and that he had to try really hard not to approach her. It is likely that in that period, this particular event was a turning point in the treatment of this patient. What followed this incident indicates that the patient might have been scared of the "real" meeting with his "spouse", because he suddenly signif-

icantly increased the doses of his medication, which entirely eliminated the hallucinations. In spite of his doctor's recommendation to take the doses dictated by the state of medical knowledge and principles of pharmacotherapy, the patient refused to reduce the doses of risperidone.

After the incident on the bus the patient, again on his own, doubled the dose of Risperidone he took to 8mg in a 24 hour period (2 x 4 mg tablets whereas his recommended dosage was 1 x 4mg Risperidone. This is what he said in January 2008: "I am terribly sorry, although not troubled by it, that I can't hear my spouse anymore. Since that time I saw her on the bus and she attained the angelic form I feel miserable. She has guided me for fifteen years. But if she is an embodied angel, she can't split into two, I can't see and hear her at the same time. I don't know what to do. She used to tell me what to do, but now I feel all stupid."

When asked about the higher than recommended dosage of his medication he responded: "I feel better, have no obsessive thoughts and I am at peace. If she loves me, she'll return."

During the visits that followed in February 2008, this is how the patient described the way he felt: "I feel a bit down since I can't hear my spouse, there is no one to guide me, I can't see the world without her; I always knew what was going on in heaven, she had an answer to everything."

DISCUSSION

The case presented above can be considered in many different contexts, and for the purposes of this discussion I have chosen the following: the context of the interpretation of symptoms and their disappearance by the patient, the psychological context of the symptoms, cooperation in the treatment and the doctor's choices of action and therapeutic strategies.

The context of the interpretation of symptoms. In this context we can discern two simultaneous processes which took place in the patient's therapy. The first is the process of the appearance, intensification and resolution of psychotic symptoms. The second is the process of systematic interpretation by the patient of the subjectively experienced changes. The disappearance of the voices is interpreted by the patient as the expression of his "spouse being offended". Two phenomena can be noticed here: the resolution of hallucination as the result of treatment and the interpretation of this fact in psychological categories available to the patient. Similarly, the two processes take place in the situation in which the auditory hallucinations are intensified. The patient interprets them as the return of his spouse and he throws in a story of his spouse's audience with God; she had to whisper and this is why he could not quite hear what she was saying. This interpretation overrules the previous one about the "offended spouse".

Depending on the treatment, the psychotic symptoms appear, intensify and disappear. Each of these changes is actively interpreted by the patient in a way changed by his illness yet logically consistent with his psychotic experiences. Since in psychosis the patient heard the voice of his "spouse", he interpreted the disappearance of the psychotic symptoms as a relationship problem with his "spouse" and the intensification of psychosis as her "return". These feelings are accompanied by complex background information such as the audience with God.

The patient's experience of this dimension has been disturbed by the delusional identification of a person he met on the bus as his "spouse". Perhaps prior to this event, the patient modified the dosage of his medication, specifically in order to have the auditory hallucinations, to have an increased "contact" (psychotic) with his "spouse". However, the intensity of contact, of "seeing" someone so important to him, was probably too much for him, so the patient doubled his medication to make sure that no such intense contact took place. In other words, when in psychosis, he got scared that he might have real contact with a woman so he "withdrew" from psychosis into reality.

In the traditional understanding patients withdraw from contacts with reality into the world of psychotic experiences. In this case, however, the patient was confronted during psychosis with the possibility of the real existence of his woman and he withdrew from experiencing this possibility, not in the psychotic world but, on the contrary, into full reality. It is just that for him it meant blocking the experiences that he was scared of.

The results of research referring to the area of experiences lived through by psychotic patients described here were published by Mizrahi et al. [3]. The authors of this publication pay attention to the fact that psychosis is conceptualized in one dimension (positive symptoms). However, there are also publications which point to the fact that psychosis is a multidimensional experience and that these various dimensions might direct us to various forms of treatment.

Although many authors have presented proofs for the multidimensional character of psychosis, various attempts to identify these dimensions have been mostly unsuccessful. The dimensions that are most frequently separated are:

- conviction (of the real character of psychotic experiences), CO
- cognitive preoccupation (engagement of mental space), CP
- behavioural impact (of psychosis on behaviour), BI
- emotional involvement EI
- external perspective (as far as in the understanding of the psychotic person, other people consider the psychotic experiences to be true), EP

Research into the treatment of psychosis suggested that in the course of treatment the individual dimensions of psychosis respond to treatment in a different way. The research involved 91 patients both hospitalized and treated in outpatient facilities, aged 15-65 with a mean age of 33±12, meeting the criteria of psychotic disorders (schizophrenia in 82% of patients, schizophrenic disorders in 3% and schizoaffective in 15% of the studied patients). All patients were evaluated in the period up to 10 weeks of treatment. The main research tool applied in this work was the Questionnaire for the Evaluation of the Dimensions of Psychosis, created by the authors of the discussed work. The average value of points scored in the PANSS scale was 65±15, whereas the average value of the points scored in the scale of positive symptoms was 18±6. The essential correlation has been noted between the values of the points scored in the subscale of positive symptoms PANSS and the results of the Questionnaire for the Evaluation of the Dimensions of Psychosis ($p<0.0001$). It has been concluded that the data obtained in the research can be best described with the help of a five-dimensional model of psychosis. The dimensions are mentioned above: conviction, cognitive preoccupation, behavioural impact, emotional involvement and the external perspective.

In the second phase of the research, the way that these dimensions are changing in response to the antipsychotic treatment was evaluated. In this phase, 17 patients were evaluated (76% with schizophrenia), 60% of whom have never taken antipsychotic medication before). It turned out that the individual dimensions of psychosis respond to treatment in different ways, and the dimension of conviction of the reality of psychotic experiences is the last and hardest to be modified in therapy:

The dimension of the impact of psychosis on behaviour (BI) – considerable improvement in the first two weeks of treatment and in the final evaluation after six weeks.

The dimension of the cognitive preoccupation, CP – the second in line, considerable improvement in the first two weeks of treatment and in the final evaluation after six weeks.

The dimension of the emotional involvement in psychosis, EI – less significant improvement in the first two weeks of treatment and the same improvement as CP in the final evaluation after six weeks.

The dimension of the conviction of the reality of psychotic experiences has been improved only in the evaluation after 6 weeks.

The dimension of external perspective, EP – no changes in the period of research.

Psychotic symptoms are not resolved in a uniform way during the antipsychotic treatment. The fastest and most consistent improvement was achieved in the behavioural aspect of psychosis, whereas the conviction about the realism of psychotic experiences was maintained for a long time, and moderate improvement was achieved after relatively long treatment.

The psychological context – In this context the patient's effort to fill in the emptiness in his life with a psychotic interpretation of his experiences is quite apparent. The patient who lives in isolation from the wider social context and has no family of his own fulfils, with his own interpretation of his hallucinations, a lot of his emo-

tional needs. In his inner life, he becomes happily married, with a long term partner who supports him and takes care of him. His personal life is almost successful and happy, if the fact that it exists only in the psychotic dimension is left apart. Also the significance of the patient's person (the narcissistic dimension) is fulfilled through the continued presence of the person who loves him, who is an angel and therefore informs him of what goes on in heaven. In this way, his existence makes sense, fragile but significant as it is, because it depends on the presence of his "spouse". One might even speculate that since the patient knows what goes on in heaven, supposedly - through his spouse - God is also informed about the patient's life.

Antipsychotic treatment essentially alters the entire experience. As Kuczyński et al. write: "The balance of losses and benefits may be quite different in the evaluation of the doctor and the patient. The resolution of productive symptoms is considered a success by the doctor, but his patient may see it as a loss. The presence of psychotic symptoms may prevent further disorganization of personality and breakdown of self-esteem. Delusions of grandeur produce a feeling of strength whereas delusions of reference and persecutory delusions a feeling of being distinguished. When psychosis serves the purpose of producing higher self-esteem than the patient actually has, the patient gets attached to his delusions, resisting their disappearance. In such conditions the attempt to remove the symptoms of psychosis is rarely effective and may lead to a catastrophic breakdown of self-esteem and, as a result, to self-destructive behaviour." [4]. Many of the elements of this accurate description refer to the patient described in this report, in whose case psychosis serves the purpose of producing a positive self-image, and its disappearance puts the patient's self-esteem in danger and can potentially lead to auto-destructive behaviour.

The context of cooperation in treatment – In the treatment of psychiatric patients and those treated for somatic complaints, cooperation has been widely discussed in medical literature. What is often emphasized is the wide variety of elements that affect cooperation in treatment. These are linked with the medication itself, its efficacy, side effects and also with the patient herself, the impact of her family, the relevance of cultural, social and economic factors. All these issues have been broadly discussed before [5, 6]. What is discussed most frequently is the lack of cooperation in treatment, the self-willed interruption of the recommended therapy, which is the main phenomenon seriously disadvantaging the course of therapy. In the context of the case discussed here, it is worth noting the rarely discussed issues of partial cooperation in treatment and taking higher doses of medication than recommended. The patient discussed here, based on his own experience and the knowledge of the effect the medication has on his symptoms, modified the dosage in a way that allowed him to achieve certain targets. By reducing the dose, he created a situation in which he only heard the hallucinatory voices in the intensity which was subjectively required at the time. By increasing the dosage to very high, the patient automatically decided to eliminate the hallucinations, which from a certain point he no longer wished to hear.

The context of therapeutic choices – In this context there are a few possibilities of therapeutic approach towards the patient. Treating him in a way that would remove the psychotic symptoms would also have to address his experiences of sadness, despair and even possible suicide attempts. Leaving the patient in the state of psychosis may be related to a considerable worsening of his psycho-social functioning, and potentially it may be dangerous to his life due to his neglect of his basic needs; also he may potentially undertake dangerous actions, conditioned by his psychosis. The patient himself has chosen to be somehow "in the middle" i.e. to take the dosage of medication which does not entirely resolve his psychotic symptoms. However, this option has resulted in the intensification of psychotic perceptions of reality, broadening the range of psychotic experiences and identifying a stranger on a bus as his "spouse".

CONCLUSION

Kapur's theory of psychosis as a state of aberrant salience provides a useful cognitive model which lets us understand clinical phenomena in the period of the formation and treatment of psychosis. This model allows us to interpret such clinical phenomena as the continuation of cog-

nitive and emotional convictions from the period of psychosis, in spite of the absence of an active psychotic process, and also the phenomenon of the patient's interpretation of the disappearance of psychotic symptoms. This last phenomenon, especially when the explanations produced by the patient are very disturbed and improbable, is sometimes interpreted as the symptoms of psychosis, although, in reality it is of entirely different status.

REFERENCES

1. Kapur S. Psychosis as a state of aberrant salience: A framework linking biology, phenomenology, and pharmacology in schizophrenia. Am. J. Psychiatry 2003; 160: 13–23.
2. Murawiec S. Zjawiska psychologiczne w początkowym okresie leczenia psychoz schizofrenicznych w kontekście teorii powstawania i leczenia psychoz S. Kapura – doniesienie wstępne. Psychoterapia. 2006; 4: 35–47.
3. Mizrahi R, Kiang M, Mamo DC, Arenovich T, Bagby RM, Zipursky RB, Kapur S. The selective effect of antipsychotics on the different dimensions of the experience of psychosis in schizophrenia spectrum disorders. Schizophr Res. 2006; 88: 111–118.
4. Kuczyński W, Rzewuska M, Sobucka K, Chojnowska A. Współpraca (compliance) w leczeniu chorych na schizofrenię. Farmakoter Psychiatr i Neurol. 1999; 4: 5–21.
5. Leo RJ. Jassal K. Bakhai YD. Niestosowanie się do zaleceń dotyczących terapii psychofarmakologicznych w grupie osób z zaburzeniami psychicznymi. Psychiatria po Dyplomie. 2006; 3: 49–51.
6. Jarema M, Meder J. Współpraca chorych w leczeniu zaburzeń psychicznych. Medycyna po Dyplomie. Suppl. 2008; 03: 34–38.