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Paroxysmal rush of intrusive eidetic images – diagnostic doubts. Case report

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Summary

Eidetic images are a relatively rare phenomenon in the practice of a psychiatrist. They are described in the category of perception disorders as images or memories which, thanks to their plasticity, vividness and detail, are very similar to the currently experienced sensory perceptions. However, it should be remembered that their occurrence is not associated with any mental disorders, and they are also observed in some healthy people. This paper presents a case report of a patient with complaints about "voiced," plastic images – the course of his psychiatric hospitalization and the psychological diagnostics carried out at that time. The authors point out the difficulties in differentiating, first of all, with auditory pseudo-hallucinations and make an attempt at psychopathological classification of the patient's symptoms. The discussion on possible disease mechanisms of this phenomenon is based on reports as well as research on the phenomenon of imagination and eidetic perceptions, and the aim of this study is to draw the attention of diagnosticians to the category of psychological phenomena with an eidetic character, which may allow them to avoid incorrect recognition of them as an element of psychotic disorders of perception.

Key words: psychopathology, eidetic images, pseudo-hallucinations

Introduction

Eidetic images are a relatively rare phenomenon in the practice of a psychiatrist. They are described in the category of perceptual disturbances, as images or memories which, thanks to their plasticity, vividness and detail, are very close to the currently experienced sensory perceptions. Despite their classification position among perception disorders, the occurrence of these observations is not associated with any mental

disorders, and they are observed in some healthy, often artistically gifted people, as well as in children [1]. In this understanding of the phenomenon, the ability to form eidetic images is maintained in an individual from birth throughout his life, without causing any discomfort.

Many authors point out that individuals can show significant differences in the plasticity and vividness of imagination, from the complete absence of any imaginations of all modalities (aphantasia) to the presence of very vivid, plastic and persistent images, enabling high scores on face recognition tests (hyperphantasia) [2]. Functional neuroimaging studies suggest that the vividness and plasticity of images correlate positively with activation of the posterior cingulate gyrus, hippocampal gyri and spindle gyrus of the brain and negatively with activity of the anterior cingulate cortex, islet gyrus and auditory cortex [3].

While the concept of hyperphantasia describes consciously evoked images, psychopathology also knows paroxysmal images of significant clarity, perceived by patients as discomforting [4]. Most often they are associated with the intrusion of unpleasant memories in the course of post-traumatic stress disorder (PTSD) [4]. The clarity of such memories is described as photographic, people who experience them are able to describe in detail the circumstances of the intrusion scene, they often experience strong emotions simulating the current experience of an unpleasant situation anew [5]. It has been suggested that these symptoms share a psychopathological mechanism with phenomena such as hallucinogen flashback, palinopsia, palinacusis, and phantom pain [5]. It is also noted that intrusive memories with similar properties, in addition to PTSD, are seen in disorders such as phobias, panic attacks, obsessive disorders, and depressive syndrome [5]. Many authors also note that intrusive, vivid, and plastic images do not have to be about past events and traumatic memories, and their content may be related to predictions of future events that have personal meaning for the patient [6–8]. These kinds of ideas are called "prospective" images. Some studies show that the high plasticity and vividness of intrusive prospective images can distinguish between anxiety disorders (GAD) and major depression [6, 7].

This paper aims to present the rare conformation of psychopathological symptoms occurring in the patient on the border of thinking, imagination and perception, and an attempt at their nosological classification, as well as a discussion on the psychopathological mechanism of these symptoms.

The article was created after the patient's permission to describe his disorders in a case report.

A case report

A 36-year-old patient came to the psychiatric ward on January 17, 2022, due to suicidal thoughts and intentions, on the previous day he tried to poison himself with gas from the oven. This behavior took place shortly after the end of the week-long alcohol binge, and the patient himself mentioned "screams in the head" and intrusive thoughts that had been occurring for several months as the reason for attempting suicide. On admission to the department, consciousness was assessed as clear, atten-

tion was drawn to psychomotor restlessness and increased withdrawal symptoms. Contact with the patient was assessed as logical, no delusional thinking content was observed. During his stay, the patient was given diazepam 30 mg/day, irrigated intravenously, and timonacic was introduced. At that time he was observed to have reduced withdrawal symptoms and depressed mood. A withdrawal syndrome in the course of addiction to alcohol and other psychoactive substances was diagnosed – the patient also declared regular use of cannabinoids. Due to the positive result of the routine PCR test for SARS-CoV-2 infection, after one day of stay, the patient was transferred to the psychiatry ward for COVID-19 infected patients. On admission, the following was noted: depressed mood, balanced drive, denied hallucinations, did not express delusions spontaneously, the course of thought was consistent, logical, thoughts of resignation were present, moderately severe withdrawal symptoms. During his stay in the ward, the patient reported a sense of danger, unpleasant visual and auditory sensations, rush of thoughts. Acceleration of trail of thoughts was observed. The patient was periodically irritable, tense, and reported thoughts of resignation. The patient's complaints were interpreted as auditory pseudohallucinations, delusions of reference and persecutory delusions. During the stay in the ward, diazepam was discontinued, risperidone was started at a dose of 2 mg/d, but on discharge, the impact of the change of treatment on symptoms was not addressed. Acute psychotic disorders similar to schizophrenia and multi-drug addiction syndrome were diagnosed. COVID infection was accompanied with only few symptoms, after the end of the isolation period, the patient was transferred to the target psychiatric ward. During admission to the ward, the following was noted: comprehensively oriented, balanced mood and drive, coherent and logical thinking, affect adjusted, at the time of examination he denied hallucinations, he did not express delusions, he denied suicidal thoughts. Physical examination without deviations.

The interview showed that the bothering symptoms started in 2017. During this period, several stressful life events took place: a strong heartbreak (a sudden break in an engagement by a long-term partner), a diagnosis of cancer in the patient's mother and a serious accident at work (an explosion of boiler furnace, as a result of which his work colleague was mutilated and the patient's duties were to supervise the technological process). The patient was a direct witness of this event and the first person to help put out a burning colleague. The criminal case, pending for many months, revealed intoxication of the victim of the accident and lack of proper health and safety clothing, the patient was not prosecuted. From that time on, the patient began to experience a feeling of tension that lasted most of the day, with overlapping paroxysmal rush of thoughts of subjectively random content, including those relating to an accident at work, and nightmares of similar content. Such attacks started quite suddenly, unprovoked, lasted about an hour and made it difficult to focus on the surrounding reality. They were often immediately preceded by the sensation of a faster heartbeat, paling and weakness. The patient tried to reduce seizures by means of intense attention, talking to his brother, talking to himself aloud. He had the impression of the sensory intensity of the crowding thoughts and images, he used the phrase that he was trying to "drown them out."

According to the patient's meticulous account, the seizures experienced by him were dominated by involuntary images in the form of scenes, in their content the patient almost always talks to someone in the given circumstances and time. The patient was convinced that he had a sense of having an influence on the issues he expressed in these ideas, but the statements of the imagined interlocutors were beyond his control, and he could not stop the whole dialogue. He was able to give details of the surroundings, clothing and behavior of people present in the content of these images, but he felt them as much clearer and more vivid than ordinary fantasies. He emphasized that he had repeatedly confused reality with scenes taking place during seizures because of this – when talking to employees, he referred to allegedly voiced questions or events that did not take place in reality, and when corrected he felt embarrassed. The seizures varied in intensity, the strongest ones strongly absorbing his attention, making it difficult to concentrate on the events in the environment. He admitted that he sometimes did not remember much of the day because of it, but he never completely lost track of where and when he really was.

Due to the chronicity of his symptoms, he began to feel depressed, anxious, fatigued, during the day he was more and more afraid of seizures, he began to avoid going out of the house in order to prevent the appearance of a rush of thoughts in a public place. While searching for ways to reduce his symptom-induced discomfort, he found that his symptoms receded after alcohol. When the rush of thoughts was more intense, he took 400 ml of vodka an hour. He observed that the days after alleviating the rush of thoughts with alcohol were associated with greater intensity and frequency of symptoms, which in turn prompted him to continue alcohol consumption. Over the past few years, there have been weeks long alcohol binges, which he explained as attempts at self-medication. At the end of these binges, he experienced extreme anxiety, muscle tremors and mental discomfort that caused him to attempt suicide.

The first such situation took place in 2021, on the seventh day of alcohol consumption, he wanted to stick a knife in his stomach. Due to the above-mentioned symptoms, he was psychiatrically hospitalized. According to the mother's account, the patient behaved like he would experience real auditory and visual hallucinations as well as periodic disturbances of consciousness. The patient had a memory gap on that day, he knew his behavior from his brother's account. He fleetingly remembered that he felt threatened by unknown people, he tried to run away. The symptom complex was diagnosed as alcohol delirium. The patient confirmed that the symptoms experienced during the delirium syndrome were quite similar to the seizures that lasted longer, and could have been a stronger version of them. The patient was aware that the basic symptoms of tension and attacks of involuntary, perceptually vivid images significantly worsened with the intensification of alcohol use.

The first treatment related to the patient's complaints, however, took place only during hospitalization in the covid ward. The patient reported that risperidone treatment 2 mg/d brought a clear improvement in the intensity of rush of thoughts (he estimated it at 80%), while their frequency remained significant, the symptoms were accompanied by mood disorders and anxiety, insomnia and stupefaction reappeared. The interview also showed that, in addition to alcohol, the patient had been taking

marijuana regularly for 10 years, 3–4 times a week. In addition, he has suffered various injuries many times over the course of his life, including serious head injuries, most of which occurred in childhood. He remembered that three times, due to head injuries, he had a head CT scan, each time the image did not present any pathologies

There was likely a family history of mental illness, he remembered that three people from a relatively close family had attempted suicide. The patient did not undergo any medical treatment, he did not have any serious somatic diseases, there was no surgery or epileptic seizures, and he denied to be allergic. The objective interview with the mother showed that the patient developed properly during his childhood. From the first year of life, he appeared to be an extremely hyperactive child, which is why he suffered numerous injuries throughout his childhood, including a serious head injury with loss of consciousness and a few minutes of hypoxia at the age of 3. When he was 6 years old, due to school difficulties, he was consulted psychiatrically, he was diagnosed with attention deficit hyperactivity disorder (ADHD), he started pharmacotherapy, but it was not well-tolerated and was discontinued after a month.

In childhood, he did not show ritualized behavior, but he was particularly meticulous and pedantic, he felt strong discomfort when something escaped the predetermined order. At the age of 14, he exhibited educational problems, began to abuse alcohol, mainly socializing with his friends from the lower secondary school. After the age of 25, he changed, achieved some stabilization, became more restrained and introverted, appreciated order and rituals of everyday life much more.

The tendency towards order and accuracy has also been strengthened at work. The events of 2017 changed his attitude towards life, his meticulousness and meticulousness, his lack of trust in people and reluctance to closer contacts intensified. During hospitalization, the patient underwent MRI with contrast agent; the test result was normal, inflammatory changes in the paranasal sinuses were described. The EEG test did not reveal paroxysmal changes.

Laboratory tests showed: TSH normal, moderately elevated ALT and GGTP.

The test examination performed by a clinical psychologist during hospitalization shows the following conclusions:

1. The general level of intellectual efficiency determined on the basis of the Raven scale is estimated at an average level.
2. Based on the examination of cognitive processes (BVRT, CTT, TRFZ, selected ACEIII sub-tests), organic CNS dysfunction cannot be ruled out. There is a decrease in attention, visual perception in the field of visual-spatial organization with normal graphomotor skills, decreased efficiency of visual and auditory short-term and delayed memory, and verbal fluency. Cognitive processes are characterized by low flexibility. The processes of abstraction and cause-and-effect inference do not show any irregularities. There are also no formal thinking disorders.

   The arrangement of the control keys in the MMPI-2 protocol allows to recognize the presumed validity of the clinical profile, but reveals a defensive tendency to aggravate the existing symptoms and problems. The level of the clinical scales (code 26 with an increase of 6T in the next scales: 7.4 and 8) indicates the severity of psychopathology with a simultaneous need to pay attention to one's mental

state which is the source of generalized distress. Various approaches to the overall protocol present the clinical picture characteristic of people experiencing anxiety and depression with a sense of loss and helplessness, with a tendency to obsessive thinking and rumination, stiff attitudes and behavior, with personality problems including suspicion, oversensitivity and a sense of social alienation. Characteristically, too much importance is attached to rationality and the use of projection as a defense mechanism. There is a narrowing of social contacts, moreover, periodically there are atypical sensory experiences with a sense of unreality and loss of control over cognitive processes. The increased score on the 4th scale is partly due to the fact that the respondent revealed that the standards of behavior regarding drinking alcohol and psychoactive substances were exceeded, but the results of the Harris subscale on this scale do not suggest an anti-social attitude. In the clinical context, people with the described configuration of clinical scales are often diagnosed with anxiety disorders.

3. The structured interview on the basis of the SCID-5-PD questionnaire shows a clear anankastic structure of the personality with paranoid features and individual features from the scope of other personality types.

On the basis of all the information collected during hospitalization, the significant similarity of attacks of rush of thoughts congestion to panic attacks, and the onset of symptoms associated with strong emotional experiences, an initial diagnosis of the depressive-anxiety syndrome was adopted. Risperidone was discontinued, paroxetine 20 mg/day and diazepam 10 mg/day were introduced. In the first days after the change of pharmacotherapy, the patient felt worse, during the day he observed increased tension in himself, more frequent rushes of significant intensity, very vivid perception, lasting even several hours, made it difficult for him to focus on events in the environment.

In this state, the nursing staff described him as closed in on himself, absorbed in internal experiences, reacting with a delay to the initiation of contact. No delusional activity was observed, he did not appear to be hallucinating, he remained auto – and allopsychically oriented. During the time between seizures, he was calm, moderately active, but passive with other patients, spending most of his time reading a book or watching games.

After two weeks of treatment, he already reported a significant improvement in the reported complaints, which he himself assessed 80% better compared to the period in which he was taking risperidone. He reported that the frequency and intensity of the rushes had significantly decreased, it was easier for him to stop an attack by himself, without pharmacology, and the mood also improved. In order to maximize the treatment, pregabalin was introduced at a dose of 150 mg/day, and shortly thereafter the dose of paroxetine was increased to 40 mg. The patient's condition improved significantly in the following weeks, and then the complaints about the rush of imaginations completely disappeared. On discharge, the following was described: clear awareness, full orientation, calm behavior, balanced mood, even drive, consistent thinking, did not express delusions, denies hallucinations, negated suicidal thoughts.

Discussion

In this study, an attempt was made to analyze the psychopathological symptoms presented by the patient. In his account, they had the character of "crowding" thoughts as well as images of varying intensity, but always causing discomfort. The attacks of symptoms were sensually clear, close to real sounds and images, they strongly absorbed the patient, although never to the state in which he lost his orientation in the real environment, lasted on average from one to several hours. The patient observed that the sensations were alleviated by taking other activities that absorbed intense attention, and that alcohol consumption quickly reduced them, but increased their frequency and intensity in the days following consumption.

These experiences were often provoked by unpleasant information and associations, but also often appeared without any tangible provoking factor. They were preceded by subtle vegetative symptoms, and the patient often felt anxious that the symptoms would reappear. The onset of the seizure of sensations gave the impression of being subject to the will of the patient. As the seizure progressed, the number of threads multiplied, and the patient felt that he was unable to control or interrupt subsequent content. He felt that the multiple threads were not related to each other by any associations, interpreted them as random. After the seizure subsided, he was relieved and easily recalled the content of the seizure in detail.

It is difficult to unambiguously classify the symptoms reported by the patient into one psychopathological unit. It seems that their phenomenological basis is constituted by images, which can be understood as a bridge phenomenon between thinking and perception. The following psychopathological syndromes were taken into account in the differentiation:

1. Disturbances of consciousness

The reported experiences had single features of oneiric delusions, stage hallucinations occurring in delirium syndrome. The above diagnosis can be excluded because the patient's orientation was fully preserved all the time, attention was slightly disturbed due to the concentration on experiences, the symptoms did not leave any memory gaps behind them. Vivid scenes of intrusive images may appear in the course of a dream state. The specific emotional state, which is the dream state, is characterized by a slight narrowing of consciousness and limited contact, related to numerous distortions of memory and perception, frequent parahallucinations coming from various senses [1]. The dream state typically occurs in hook seizures. During the seizures, the patient's emotional state was clearly dysphoric and uncomfortable. Therefore, it is difficult to speak of a dreamlike mood in this case. Taking the above analysis into account, the diagnosis of quantitative and qualitative disturbances of consciousness was excluded.

2. Hallucinosis

Hallucinosis is a symptomatic syndrome characterized by the predominance of hallucinations of various modalities with possible delusional interpretations. Chronic alcoholic hallucinosis is manifested primarily by real auditory hallucinations, most often those engaging attention, causing anxiety [1]. Interview with the patient indicated that the tendency to abuse psychoactive substances continued for a long time before the onset of bothersome symptoms. However, it is difficult to interpret the patient's complaints as true auditory hallucinations. The patient was aware that the content he heard came from his imaginations, he conducted a dialogue with the imagined people with mundane content that evoked various emotions. The patient did not locate the sound of these conversations in real space, he described them as suspended in an imaginary space, although he assessed their maximum volume as similar to that of real sounds in the environment.

3. Paranoid/delusional-hallucinatory syndrome

During hospitalization preceding the current hospital stay, the patient was diagnosed with multiform psychotic disorders, and in the epicrisis, persecutory delusions were described. The patient's complaints were interpreted as pseudo-auditory hallucinations. Repeated examinations supported by test tools did not reveal the presence of any content or thinking disorders during the current hospitalization. There were no disorders of the self, no symptoms of personality disintegration, no primary symptoms of schizophrenia. Pseudo-hallucinations are understood as felt in such a way that they cannot be described in a classic three-dimensional space. They can be projected into internal or subjective space, which brings them closer in nature to ideas and fantasies. The patient clearly understood his symptoms as thoughts and images, coming from himself but being influenced to a very little extent by will. Throughout the course of the symptom attack, he remained critical that the content he experienced did not happen in reality, that they were based on ideas. The content of the symptoms was mundane, related to typical situations in the patient's life that could happen in the future, they were a kind of simulation of dialogues, fantasies. The only hallucination trait thus possessed by the patient's complaints is objectivity (manner of projection) and expressiveness. There is no critical judgement. Some research studies indicate a higher frequency of intrusive, sensually vivid, prospective images in schizophrenia, compared to the control group consisting of patients treated for various depressive and anxiety disorders. The authors of these studies hypothesize that the incidence of this symptom in schizophrenia is related to the accompanying retrospective intrusions after a traumatic experience [8].

4. Panic disorder

Panic attacks are characterized by a rapidly increasing feeling of anxiety, occurring without objective danger, usually lasting several minutes, associated with distinct

autonomic symptoms, such as dizziness, increased heart rate and increased sweating. In the course of panic disorder, panic attacks occur periodically, in unpredictable circumstances, are associated with a secondary fear of death or mental illness, which motivates patients to avoid the situation associated with the occurrence of these attacks. One of the most frequent situations of this kind is being in a crowd or a space completely devoid of people [1, 9]. The seizures presented by the patient had many features in common with the above description – the patient felt anxiety, the symptoms suddenly increased, and they were accompanied by symptoms of the activation of the autonomic system. The symptoms caused a secondary fear of mental illness, recurrence of symptoms in the disadvantaged situation, and motivated the patient to avoid human gatherings. A rush of thoughts is also a symptom that is often described during panic attacks. However, the long duration of seizures, up to several hours, with varying severity of the symptom during its duration, do not match the psychopathological picture. The patient's seizures were relieved with emergency sedatives. Apart from immediate pharmacological interventions, the patient felt relief mainly as a result of redirecting attention to activities that absorbed attention. Independent attempts at relaxation did not bring the desired relief of symptoms. As mentioned in the introduction to this paper, some authors point to a higher frequency of vivid, prospective images in the course of generalized anxiety disorder [6, 7].

5. Obsessive-compulsive disorder (OCD)

Obsessions are thoughts, ideas, images or impulses that appear in a stereotypically recurring manner, in the vast majority of cases associated with a feeling of discomfort and difficulties in everyday functioning. Their occurrence is involuntary, raises objections in the patient, thoughts are perceived as their own. They are often accompanied by autonomic anxiety symptoms. Anankastic personality traits predispose to obsessive-compulsive syndrome [1, 9]. It seems that the symptoms presented by the patient are largely consistent with the characteristics of intrusive thoughts, they are based on ideas, appear in a stereotypically recurring way, cause discomfort and subtle autonomic symptoms, the patient treated them as his own and searched for a way to minimize them. In the patient, however, they had atypical features – in the greater intensity of symptoms, the images became as plastic as real scenes, images, sounds. During the long observation in the ward, the patient showed clearly marked anankastic personality traits. Some studies indicate that OCD patients present clear difficulties in distinguishing thoughts from images, and may also confuse actual events with imaginary [10]. This analysis could explain his feeling of cognitive dissonance.

6. Post-traumatic stress disorder

Common symptoms of this syndrome include episodes of repetitive intrusive thoughts and ideas about the memory of extremely threatening or catastrophic situations. Seizures of these symptoms are often provoked by direct association with a past

traumatic situation, and are associated with severe anxiety or aggression. Reminiscence attacks in the course of post-traumatic stress disorder are often described as very vivid and plastic, absorbing, making it difficult to focus on the real environment. As in panic disorder, they motivate the patient to avoid situations that may be associated with the occurrence of symptoms. Post-traumatic stress disorder is very often accompanied by indifference, apathy, anhedonia, a gradual change of personality with social withdrawal and irritability is described [1, 9, 11]. In 2017, the patient experienced an event that could be a deeply moving misfortune for almost everyone. The symptoms of image clutter, which are the subject of this analysis, first appeared shortly after this traumatic event. The plasticity and vividness of the symptoms reported by the patient are consistent with the characteristics of the symptoms of post-traumatic stress disorder, however, they were not associated with such intense emotional experiences in the subject, but rather caused moderate anxiety and dysphoria. Also, the change of the patient's personality after a traumatic event does not meet the criteria for feeling emptiness and hopelessness, a feeling of constant threat. In the case of the patient, one can speak of an exacerbation of previously revealed personality traits. Some authors of research papers point out that the mere experience of a highly discomforting event may intensify the vividness and plasticity of the general imagination, and not only intrusive reminiscences [12].

7. Factitious disorder

Suspicion of simulation results from unusual nature of the complaints reported by the patient. Another premise for such a hypothesis are the specific tendencies of presenting complaints by the patient, revealed in the psychological examination as aggravation tendencies. However, one cannot talk about faking psychopathological symptoms consciously if it is not possible to identify the motive, i.e., the subjective benefit that would force the patient to do so. The MMPI study is a significant support in assessing the sincerity of the patient's attitude towards the treatment, thanks to the scale of lies contained in this test, which, however, did not reveal incorrect results.

It seems that none of the above psychopathological phenomena occurring in the course of the aforementioned nosological entities fully describe the symptoms presented by the patient. In psychopathology, a specific symptom classified in the category of perception disorders is known – eidetic experiences. They are characterized as images or memories which, thanks to their plasticity, vividness and detail, are very similar in properties to the currently experienced sense perceptions. Such experiences do not have any pathological significance and are most often described in children. The definition of eidetic experiences is consistent with the description of the symptoms experienced by the patient, but does not include their intrusive, recurrent nature and the discomfort associated with the notions.

Summing up, it seems that the symptoms experienced by the patient can be described as paroxysmal, intrusive images of high plasticity, vividness and detail, similar in properties to normal sensory perceptions. It is debatable whether it is appropriate to describe them in terms of intrusive eidetic experiences.

It should be noted that the entire diagnostic process remains insufficient to make a complete diagnosis. Despite results of EEG and CT scans of the head, epileptic etiology cannot be ruled out at this stage, especially partial temporal seizures.

The authors of this study take the position that the atypical psychopathological picture is the result of the overlapping of at least several psychopathological syndromes. The most dominant component of this image seems to be intrusive thoughts developing on the basis of personality predispositions, the expression of which may be modified by past traumatizing events, serious head injuries and by an early tendency to abuse alcohol. The success of treatment with an SSRI seems to confirm such a psychopathological mechanism of the patient's symptoms.

The aim of this study is to draw the attention of diagnosticians to the category of eidetic psychological phenomena, which will allow them to avoid incorrect recognition of them as an element of psychotic disorders of perception.

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