

*Prikaz slučaja /  
Case report*

CONVERSION DISORDER, NODDING OR  
SOMETHING ELSE?

KONVERZIVNI POREMEĆAJ, NODDING  
ILI NEŠTO DRUGAČIJE?

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**Ključne reči**

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**Abstract**

**Introduction:** Conversion disorder is characterized by the manifestation of inexplicable physical symptoms that affect voluntary motor and sensory function in such a way as to indicate the existence of a neurological disease with the presence of intrapsychic conflicts that play a significant role in the initial onset of symptoms, exacerbation and maintenance over time. Eating disorders are mentally conditioned, complex disorders with numerous complications and the highest mortality rate among all psychiatric disorders. Nodding syndrome/disease is a pediatric epileptic and progressive encephalopathy of unknown etiology that is present in several African countries. **Case report:** The female patient from South Sudan, initially presented for psychiatric evaluation due to mood problems and very low body weight, dietary restriction, and secondary amenorrhea. During the stay in the hospital, the clinical course of eating disorder is complicated by symptoms in the domain of neurological dysfunction, which are recognized as a conversion disorder with a potential consideration in the direction of Nodding syndrome due to the presence of a positive family anamnesis in the direction of the same. Laboratory diagnostics, CT and EEG were done and the findings were normal. **Conclusion:** Considering the persistence of conversion phenomena and the negative findings of the somatic examination, we conclude that the patient has a complication with presentation of conversion disorder symptoms in the field of anorexia nervosa.

**INTRODUCTION**

Conversion disorder, as a part of somatoform disorders, is characterized by the manifestation of inexplicable physical symptoms that affect voluntary motor and sensory function in a way that indicates the existence of a neurological disease with the presence of intrapsychic conflicts that play a significant role in the initial onset of symptoms, exacerbation and maintenance over time<sup>(1)</sup>. Eating disorders, led by anorexia nervosa as the main representative, are mentally conditioned, complex disorders with numerous complications and the highest mortality among all psychiatric disorders<sup>(2)</sup>. Nodding syndrome/disease (NS) is a pediatric epileptic and progressive encephalopathy of unknown etiology that is present in several East African countries. Current estimated prevalence rates include 0.3% in Uganda, 0.4% in the Democratic Republic of Congo, 0.7% in Tanzania, and

4.6% in South Sudan<sup>(3)</sup>. Etiology includes infections, malnutrition, toxins, autoimmune, hormonal, metabolic, genetic and psychiatric factors<sup>(4)</sup>.

**Case presentation**

The female patient, 20 years old, from Africa (South Sudan), initially presented for a psychiatric examination due to mood problems and very low body weight, dietary restriction and secondary amenorrhea. Due to the need for additional examination, she was admitted to the Department for Adolescent Psychiatry and Psychotherapy KBC “Dr Dragiša Mišović”, Belgrade.

The patient gave oral and written consent for the publication of the clinical report.

The patient was born as the third of twelve children, with congenital syphilis, and during her childhood she was treated for malaria. As a child, she was repeatedly sexually

abused by various male figures from her environment. In addition, she was forced, as a very young child, to do all the housework, physical work and to look after the younger children.

The problems started in 2016. Initially, she reduced the amount of food she took because she didn't feel like eating, or she wouldn't make it because of her obligations at home. She related this to a mental breakdown of the type of psychosis that her mother had that year. The symptoms eased over time, but they flared up again in 2018, when her older sister tried suicide. That year she vomited at the very smell of food. She never induced vomiting. After arriving in Belgrade, she started walking more and more. In the spring of 2023, she was diagnosed with *Helicobacter pylori* gastritis, for which she used prescribed therapy and changed her diet. She significantly reduced food intake. She ate one meal a day, sometimes not even that much. She lost her menstrual cycle six months before she went for a psychiatric examination.

At the moment of admission to the ward, the patient was visibly cachectic. After a week, she began to complain about the difficult passage of food, she ate meals for a long time. In the fourth week of hospitalization, she had bilateral tinnitus, which passed spontaneously. In the clinical course, she showed a pronounced fear before meals, fear of gaining weight, nervousness because she could not walk outside freely. Through the application of individual and group psychotherapy, numerous memories with which she had a hard time coping came to light. She was suicidal for two weeks. After stabilizing her mental state, discharge was discussed with her, after which she began to complain that her legs trembled in a sitting position and when she tried to raise them in a sitting position. A neurological examination with EEG was performed which did not indicate objective signs of neurological disease, there was limited mobility of the right leg with a „click” in the hip joint. X-rays of the pelvis and hips were done and the findings were normal. The following day, the patient began to lose balance while standing and walking because her legs continuously trembled. She began to develop a bizarre type of walk, one to two steps forward, then one step back or to the side. A la belle indifference type reaction could be seen in the face. Twitches and spasms of the body also occurred during the night, which disturbed her sleep. During hospital treatment, laboratory analyzes were also performed. The parameters were within the reference values, except for the reduced levels of vitamin D. Immunological analyzes were performed: HIV Ag, finding non-reactive, HBs Ag, negative finding, anti HCV negative finding, VDRL finding non-reactive, TPHA (*Treponema pallidum* hemagglutination) finding non-reactive. Due to the feeling of difficulty in the passage of food, a gastroenterologist was consulted. He requested an ultrasound of the abdomen and its findings were completely normal.

As a differential diagnosis, we thought about conversion disorder due to the sudden presentation of symptoms and after the discharge was discussed with the patient. Namely, the patient, as a multiple traumatized person, found peace in hospital conditions and gained trust in the medical staff. The next thing we thought about was Nodding syndrome/dis-

ease, because the patient gave information that several of her relatives have that disease and that it is common in the geographical region where she lived. Furthermore, psychogenic non-epileptic seizures (PNES) as well as neuroborreliosis were taken into consideration, since we have information that our patient was born with congenital syphilis.

During the hospital treatment, pharmacotherapy was administered with antidepressants from the group of selective serotonin reuptake inhibitors (paroxetine) in a dose of 20 mg in the morning and tricyclics (trazodone) in a dose of 150 mg at 10 pm, with the addition of an anxiolytic of the benzodiazepine type (alprazolam), 1/4 tablet, half an hour before breakfast in order to reduce the level of anxiety, which the patient complained was highest in the morning hours. She was prescribed a gastroprotector, a proton pump inhibitor (pantoprazole) in a dose of 20 mg, half an hour before breakfast, due to complaints of difficulty in swallowing and digesting food.

With the application of individual and group psychotherapy, the patient's psycho-somatic condition improved significantly. During the hospital treatment, she gained 1.5 kg and the described pseudo-neurological attacks became less frequent. Further continuation of the treatment will be realized within the framework of regular outpatient visits.

#### DISCUSSION

Conversion disorder is the most common in the group of somatoform disorders. In general hospital settings, about 5-14% of psychiatric consultations are done with patients who have conversion disorder, with a higher frequency among the young female population. Examples of symptoms of conversion disorder are unexplained blindness, diplopia, convulsions, anesthesia, aphonia, gait problems, amnesia. Traditionally, the prevalence of conversion disorder is higher in rural areas, among undereducated and lower socioeconomic strata<sup>(5)</sup>.

In the United States, Anglin et al investigated the relationship between trauma, dissociation, and attenuated psychosis, taking into account the possible role of cultural variation. They administered self-report measures of attenuated psychotic symptoms, traumatic life events, and dissociative style in response to traumatic experiences to 549 healthy New York college students who mostly came from ethnic minority groups. Dissociation mediated the relationship between traumatic life events and moderated positive psychotic symptoms, but mostly in black students. The authors concluded that a dissociative style of responding to traumatic life events may be more common among Black young adults with subclinical psychotic experiences than among youth from other cultural groups<sup>(6, 7)</sup>. In South Sudan, a prevalence of paraparesis, hemisensory loss and tremor as one of the most common forms of conversion disorder was identified. Multiple somatic symptoms such as headache, pain and fatigue were present in patients with this disorder. Irritable bowel syndrome, chronic fatigue syndrome, fibromyalgia, and chronic pain syndrome were common<sup>(8)</sup>.

In relation to Nodding syndrome/disease (NS), before the onset of typical attacks, prodromal signs appear to develop in 20% of cases, including blank stare, excessive sleepiness, dizziness and loss of focus of attention. The character-

istic involuntary repetitive head nodding, which may be present in all cases of NS, is likely the result of periodic loss of neck muscle tone. The occurrence of these symptoms has been described in both children and young adults ranging from 2 to 22 years of age, with a slightly higher prevalence among men (55%). In over 80% of cases, NS progresses to include other seizure types, including generalized tonic-clonic seizures, partial complex seizures, and atypical absence seizures (9,10).

Further complications associated with NS include psychiatric symptoms such as mood swings, aggression, sleep disturbances, and somnambulism in 36%, 27%, 23%, and 9% of cases, as well as symptoms of catatonia. In contrast, neither focal neurological abnormalities nor cranial nerve

palsies have been reported in NS. Some patients have been described to progress to more severe forms of NS, although the percentage is unknown (11).

### CONCLUSION

Conversion symptoms are a relatively common way of expressing complex intrapsychic conflicts. Regardless of the theories of origin, the key characteristic of all is that conversion is a form of non-verbal communication with presentation in the form of physical symptoms. This case points to the important role of early traumatic experiences, eating disorders and biological sociocultural factors in the development of conversion symptoms.

### Sažetak

**Uvod:** Konverzivni poremećaj se karakteriše ispoljavanjem neobjašnjivih telesnih simptoma koji zahvataju voljnu motornu i senzitivnu funkciju na takav način na ukazuju na postojanje neurološke bolesti uz prisustvo intrapsihičkih konflikata koji igraju značajnu ulogu u inicijalnom nastanku simptoma, egzacerbaciji i održavanju kroz vreme. Poremećaji u ishrani predstavljaju mentalno uslovljene, kompleksne poremećaje sa brojnim komplikacijama i najvećim mortalitetom među svim psihijatrijskim poremećajima. Nodding sindrom/bolest je pedijatrijska epileptična i progresivna encefalopatija nepoznate etiologije koja je prisutna u nekoliko afričkih zemalja. **Prikaz slučaja:** Pacijentkinja, iz Južnog Sudana, inicijalno se javila na psihijatrijski pregled zbog problema sa raspoloženjem i sa jako niskom telesnom težinom, restrikcijom u ishrani i sekundarnom amenorejom. Tokom boravka u bolnici klinička slika poremećaja ishrane se kompikuje simptomima u domenu neurološke disfunkcije koji su prepoznati kao konverzivni poremećaj sa potencijalnim razmatranjem u pravcu Nodding sindroma zbog postojanja pozitivne porodične anamneze u pravcu istog. Urađena laboratorijska dijagnostika, CT i EEG nalazi su bili uredni. **Zaključak:** S obzirom na perzistiranje konverzivnih fenomena a uz negativne nalaze somatske pretrage, zaključujemo da je kod pacijentkinje došlo do komplikacije po tipu konverzivnog poremećaja na terenu anoreksije nervoze.

### LITERATURA

1. Ford CV, Folks DG: Conversion disorders: an overview. *Psychosomatics* 1985; 26:371–3832.

2. Verónica Gaete P, Carolina López C. Trastornos de la conducta alimentaria en adolescentes. Una mirada integral. *Revista Chilena De Pediatría*. 2020;91(5):784-793.

3. Spencera PS, Okotc C, Palmera VS, Valdes Anguesa R, Mazumder R. Nodding syndrome: a key role for sources of nutrition. *eNeurologicalSci*. 2022:100401.

4. Spencer PS, Mazumder R, Palmer VS, et other Members of the Oregon-Uganda Nodding Syndrome Research Team. Environmental, dietary and case-control study of nodding syndrome in Uganda: a post-measles brain disorder triggered by malnutrition? *J. Neurol. Sci*. 2016;369:191–203.

5. Christa Krüger. Culture, trauma and dissociation: A broadening perspective for our field. *Journal of Trauma & Dissociation*. 2020;21:1-13.

6. Anglin DM, Polanco-Roman L, Lui F. Ethnic variation in whether dissociation mediates the relationship between traumatic life events and attenuated positive psychotic symptoms. *Journal of Trauma & Dissociation*. 2015;16(1):68–85.

7. Douglas AN. Racial and ethnic differences in dissociation: An examination of the dissociative experiences scale in a nonclinical population. *Journal of Trauma & Dissociation*. 2009;10(1):24–37.

8. Osman HA, Alsharief MS, Sidding EH. Functional neurological disorder: characteristics and outcome in a limited-resources country (Sudan). *Epilepsy and Behavior*. 2022;111:107151.

9. Naidoo L, Bhijee AI. The spectrum of functional neurological disorders: A retrospective analysis at a tertiary hospital in South Africa. *S Afr J Psychiat*. 2021;27(0):a1607.

10. Abd-Elfarag GOE, Emmanuel L, Edridge AWD, van Beers S, Sebit MB, van Hensbroek MB, et al. Epidemiology of nodding syndrome in the Greater Mundri area, South Sudan: Prevalence, spatial pattern and environmental risk factors. *PLoS Negl Trop Dis*. 2022;16(7):e0010630.

11. Abd-Elfarag GOE, Edridge AWD, Spijker R, Sebit MB, van Hensbroek MB. Nodding Syndrome: A Scoping Review. *Tropic. Med. Infect. Dis*. 2021;6:211.

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