

The case of "tetanus" syndrome in neurology

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The article describes a clinical case of conversion disorder with generalized muscle cramps occurring under the guise of tetanus. The problem in diagnostics arose after the appearance of relapses of tetanus and the absence of the effect of tetanus treatment. Infectious disease specialists, neurologists and psychiatrists examined the patient. After numerous studies, they diagnosed conversion disorders according to the variant of convulsive syndrome.

Keywords: tetanus, tetanus, seizures, tetanus therapy, relapses, studies, infectious diseases, neurologist, psychiatrist, conversion disorder

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For citation: Gusniyev AM, Kurmaliyev MM, Ataev MG, Magomedova AKh. a Case of "Tetanus" syndrome in neurology. *Environmental medicine*.2018;1(1):36-39. DOI: 10.34662/EM.2018.1.1.36-39
Translated from *Ecologicheskaya Medicina*. 2018. vol. 1, N. 1(1), pp.40-44.

Translated by Yusupova D.G.

In our practice, there was a unique case with a clinical picture of a tetanus of the recurrent form.

Introductory part

On May 26, 2015, in the evening, a patient SI, 54 years old, was brought to one of the rural hospitals of Dagestan by a brigade of ambulance. Directive diagnosis of acute pneumonia, ship-borne syndrome.

Due to an elevated temperature (over 39 degrees) and occasional convulsions, an ambulance doctor before hospitalization injected the patient with a lytic mixture of analgin, diphenhydramine and papaverine, as well as sibazon.

Hospitalization was performed in the intensive care unit. The emergency doctor on duty made a preliminary diagnosis: ambulatory syndrome of unknown origin; Pneumonia? Symptomatic and antibiotic therapy is prescribed.

The next day, the patient was examined by the head of the intensive care unit, the infectious disease specialist, the neurologist and the therapist. There are suspicions of tetanus. An infectious diseases specialist in the Dagestan Center for Emergency Medicine was called out of the city, which confirmed the di-

agnosis of tetanus. Specific therapy is prescribed: intravenously and up to 100 thousand IU of antitetanic serum were injected intramuscularly. The frequency and intensity of seizures gradually began to decrease.

When the convulsions were completely stopped, the patient was discharged from the hospital. After 1 month after that he set to work. For more than 3 months the condition of the patient was good.

However, 3 months after the main disease, convulsions recurred, and the patient was re-hospitalized at the same hospital. There was consensus in the diagnosis.

We raised the literature on tetanus, trying to find out if the disease was described in the past. In the textbooks on infectious diseases [2, 3] it is noted that tetanus relapses are extremely rare, the pathogenetic essence. G.N. Tsybuliak in his monograph [1] writes that he found the first references to relapses of tetanus in the works of Rose (1897). Until 1937, 48 such patients were reported in the world literature. Tetanus relapses have also been described by H.L. Martin, F. McDowell [5], P. Menghi, B. Fantuzzi [6].

G.N. Tsybuliak believes that relapses of tetanus can only be talked about when the

interval between two attacks of the disease is completely asymptomatic and is several weeks or months [1]. The case of tetanus, which we present here, was accompanied by intervals between bouts of the disease in a few months (1-3 months).

Main part

Here is a detailed description of the clinical picture of the disease in patient S.I. at the first hospitalization. He entered the central district hospital on May 26, 2015, complaining of seizures involving the whole body, including upper and lower extremities, fever and cough.

The patient had a cold 3 days ago, he was disturbed by cough and high fever to subfebrile level. Took bisectol, mukaltin and aspirin. On May 26 in the evening, the temperature rose to 39-40 ° C and convulsions appeared. Sko-paradise was introduced by S.I. lytic mixture and siba-zones, after which he took him to the hospital with the diagnosis "pneumonia, hyperthermic and convulsive syndrome". When viewed in the waiting room: the mind is clear, contact, adequate. A patient of non-sthenic physique. The skin and sclera of the usual color, the throat of the usual color, the tongue is slightly overlaid at the root with a white bloom, moist. Trism and dysphagia outside seizures are not. On other organs and systems: single light transient dry rales above the lungs, respiratory movements of 18 to 1 minute. Heart sounds are somewhat muffled, regular rhythm, Pulse 84 in 1 minute, Blood pressure 120/70 mm Hg. The abdomen is soft, painless, the liver and spleen are not enlarged. Stool and diuresis are normal. There are no meningeal signs. There are no focal symptoms on the part of the central nervous system. Peripheral edema no. Lymph nodes are not increased. The muscles of the body are not tense, the tone is normal. Symptom Pasternatskiy denial. The patient denies traumatic brain injury.

At intervals of several minutes to several hours, the patient, with full consciousness, will have bouts of tormenting convulsions. The face is distorted by a mask of suffering; a perspiration appears on the forehead. From the closed lips comes a muffled moan. The muscles of the whole body are tonic and pulling the body one way or the other, giving it a bizarre posture, including the form of the arch — opisthotonus. The duration of the attack is about 1 minute. Then the attack stops and the patient calms down. He is able to talk, drink water, eat food as before. However, the fear

of repetition of convulsions in a patient is still present.

The number of attacks in the first days of the disease exceeded 15 per day. They began spontaneously and just as suddenly interrupted. Surprise caused the absence of trism outside of the attacks of the disease. Even during attacks, a closed and stretched mouth was more like a grimace of pain than trismus. In the first days of the patient, a neurologist and a therapist examined the patient. Neurologist did not find focal neurological symptoms either by electroencephalogram (EEG) and magnetic resonance imaging (MRI) of the brain, or by clinical data. The presuppositions of epilepsy and hysteria were also rejected. The therapist ruled out pneumonia after receiving a chest X-ray. Ultrasound of the abdominal organs - without pathology.

In the first blood tests, a small leukocytosis (approximately $11.0-15.0 \times 10^9 / l$) was noted at a low erythrocyte sedimentation rate (20–22 mm / hour). In the future, the picture of the general blood test was within the normal range. All analyzes of urine and feces without deviations from the norm. Biochemical analyzes with the determination of bilirubin, alanine and aspartate transaminases, creatinine, urea, glucose, amylase and total protein corresponded to the normal range.

From the anamnesis, it is established that the patient works as a gardener in the sanatorium "Chaika".

Before the disease, sheared bushes with clippers. In the course of this work, he repeatedly injured his hands and legs with cusps, because of this he had numerous wounds and scratches on his limbs, already covered with crusts. The patient reported that the livestock of local residents sometimes comes to the territory of the sanatorium. It was also found that back in 2011, the patient began to notice a headache and dizziness.

His examination was carried out in the neurological department of one of the Makhachkala hospitals. Magnetic resonance imaging (MRI) of the head and electrocorticogram (EEG) were done to clarify the diagnosis; however, apart from an increase in intracranial pressure, nothing else was revealed.

He received Cavinton, Mexidol, Diacarb, and subsequently Cinnarizine. The state of health from the treatment carried out improved, the headaches and dizziness disappeared. Until 2015, I felt relatively badly until

the first seizure of the above seizures occurred in May.

The clinical picture and epidemiological history to a certain extent corresponded to the diagnosis of tetanus, confused only one thing - the absence of trismus. Taking these data into account, a therapy was prescribed: anticonvulsants and anesthetics, tetanus toxin, antibiotics. Anti-tetanus serum is administered in a total dose of 100 thousand IU in / in a drip on a physiological solution, fractionally within 2 days. Injections of anticonvulsants (Relanium, hydroxybutyrate and sodium thiopental, etc.) were repeated many times during each day. The treatment did not help immediately. The intensity and frequency of attacks significantly decreased only after 10 days from the start of treatment.

After 2 weeks, the number of attacks did not exceed 5 per day, lasting about 10 seconds. On the 17th day of hospitalization, the seizures were completely stopped. The patient spent a total of 21 days in the hospital and was discharged in a satisfactory condition.

It's been almost 3 months. The convalescence center felt good and therefore resumed work as a gardener. In one of days S.I. They invited me to a wedding where, as usual, music played loudly. Because of the headache caused by the noise, he went outside. There, on the street, the attack of the tonic tension of the whole body, which he was familiar with, suddenly began (according to the patient, an acute feeling of sadness arose before the attack began). An ambulance was urgently called, which delivered S.I. to the same hospital where he had previously been treated 3 months ago.

With repeated admission, the clinical picture of the recurrence of the disease was similar to that in May, with the only difference that the intensity of the seizures of the convulsions was less and there was no temperature rise. This time we did not inject antitetanic serum, instead a tetanus toxoid was prescribed. Antitoxin was administered three times at a dose of 1.0 ml subcutaneously every other day. Anti-aids were also used in the treatment. Every day the number and intensity of attacks decreased.

After 1 week, the convulsions ceased, and on the 9th day of inpatient treatment the patient was discharged. 3 months have passed since that time, there were no convulsions, and it would be possible to forget about them.

However, subsequently, the disease recurred at different intervals. Further history of the disease is associated with the Astrakhan medical-advisory center "Neuromed." S.I. He turned there due to the fact that there was no full recovery from Sous-roads.

Complaints were the same: on tonic convulsions with a stretching of the whole body after the traumatic moments, without loss of consciousness, on unstable dull headache in the region of the occiput, sometimes accompanied by vertigo. The neurological status was as follows: the mind is clear, there are no meningeal signs, the pupils are of the same size, the photoreduction is preserved, the eyeballs are fully in full. Slight asymmetry of the nasolabial fold, tongue along the midline. There are no motor and sensory disturbances. Tendon jerks live, without a clear difference of sides. There are no pathological signs. In the Romberg position is stable. Exact tests performed.

Conducted MR-imaging of the brain and EEG. MR-imaging conclusion: isolated hypoxa-ischemic microfocal in the frontal and right temporal lobes. Moderately pronounced open outdoor hydrocephalus. Is-curvature of the nasal septum.

Conclusion by EEG: moderate diffuse changes in the bioelectric activity of the brain. Emphasis of pathological activity in the fronto-temporal and occipital regions. Hyperventilation reveals paroxysmal activity in the fronto-temporal region. Barrel dysfunction.

Various clinical, biochemical, and hormonal analyzes were within the normal range. Clinical diagnosis was made by neurologists: chronic cerebral ischemia with tension headaches, moderate emotional and mnemonic disorders, neurotic syndrome, and MR-imaging changes. Osteochondrosis of the cervical and lumbar spine with cranio-cervicalgia and lumbodinia.

Treatment was prescribed: Actovegin, Cortexin, Vinpocetine, Glycine, Ceraxon, Cardiac Magnetic, and acupuncture, Massage of the neck area.

Recommended control of blood pressure, MRI and EEG dynamics. The patient was discharged in satisfactory condition. And yet the effect of the treatment, as before, was short-lived. At present, S.I. bouts of convulsions are repeated periodically, but of lower intensity than before. Neuropathy, psychiatrists, including epileptologists, cannot accurately deter-

mine the diagnosis, despite numerous examinations of the patient.

Conclusion

The diagnosis of "tetanus, relapsing form" was finally dropped. In view of the above, it should be considered that this patient has a conversion (dissociative) disorder of unclear nature, previously interpreted as hysterical neurosis. According to the classification of pseudo-epileptic seizures by A. Kanner and J. Parra [4], convulsive psychogenic pseudo-epileptic seizures are divided into 5 types: e) mixed types.

Conversion disorder (hysterical neurosis) is a psychogenic disease with various symptoms, reminiscent of a wide variety of disorders, in the absence of an organic cause of the disease. Appears more often at a young age, predominantly in patients who are characterized by emotional instability, increased demonstrativeness. It is considered that the basis of the hysterical neurosis is psychological conflict associated with excessively exaggerated claims of the personality, combined with an underestimation or complete disregard of objective realities or the requirements of others. He is distinguished by the excess of the demandingness of others over the demanding of himself and the absence of a critical attitude to his behavior. In addition, it should be noted that the basis of the conversion disorder is probably genetic

predisposition and an unfavorable premorbid background, caused by a sustained brain injury. Thus, we had to witness the recurrent course of neurological disease. nature with a clinical picture of tetanus.

Findings

The diagnosis of "tetanus" should be made collectively: an infectious disease specialist, a neurologist, and in some cases a psychiatrist. The relapses of tetanus should be recognized as casuistica and should be perceived with great caution, since a different genesis of seizures is possible. Since the early laboratory diagnosis of this disease is very difficult at the present time, with the presence of an appropriate epidemic and clinical picture of tetanus, taking into account the potential severity of the disease in the case of late use of specific therapy, it is recommended to introduce anti-tetanic serum.

Conflict of Interest Information

The authors declare the absence of overt and potential conflicts of interest related to the publication of this article.

Medical information about the patient is published with his written consent.

Authors participation: concept and design works - A.M. Gusniev; material collection - M.M. Kurmaliev, A.Kh. Magomedov; text writing and text editing - A.M. Gusniev, M.G. Ataev.

References

1. Zybulyak GN. *Stolbnyak* [Stolbnyak]. Medicina. 1971. 287s. (In Russ.).
2. Shuvalova EP. *Infekcionnye bolezni* [Infectious diseases]. Moscow, 2005. - 696 s. (In Russ.).
3. Yushhuk ND, Vengerov YuYa. *Lekcii po infekcionnym boleznyam* [Lectures on infectious disease]. Moscow: GEOTAR-Media, 2016;1:382-392. (In Russ.).
4. Kanner AM, Parra J, Frey M, Stebbins G, Pierre-Louis S, Iriarte J. Psychiatric and neurologic predictors of psychogenic pseudoseizure outcome. *Neurology*. 1999;53,5:933-998.
5. Martin HL, McDowell F. Recurrent tetanus: report of a case. *Ann Intern Med*. 1954;41(1):159-63.
6. Menghi P, Fantuzzi B. [The so-called anorexic infant and its ponderal growth]. [Article in Italian]. *Minerva Nipiol*. 1957;7(3-4):59-62.

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