

Hypersexuality and Acute Psychosis in a Male Teenager with Anti N-Methyl-D-Aspartate Receptor Encephalitis

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Abstract

The purpose of this release is describing a case of hypersexuality and acute psychosis in a male teenager with anti-N-methyl-d-aspartate receptor encephalitis. A case has been described on a 13-year old patient that started with a neurologic, psychiatric clinical profile and hypersexuality. The electroencephalogram showed a characteristic pattern so-called Delta-Brush. The cerebrospinal fluid (CSF), showed a positive value for N-methyl-D-aspartate receptor antibody. Conclusion: Hypersexuality may be a predominant symptom in some cases of anti-NMDAR encephalitis in teenagers.

Keywords: Sexual Behavior; Psychotic Disorders; Epilepsy; Anti-N-Methyl-d-Aspartate Receptor Encephalitis

Abbreviations

NMDAR: N-methyl-d-aspartate receptor; CSF: Cerebrospinal Fluid; PCR: Polymerase Chain Reaction; EEG: Electroencephalogram

Introduction

Anti-N-methyl-D-aspartate receptor (anti-NMDAR) encephalitis, is an autoimmune limbic disorder described in 2007 by Dalmau and Cols [1,2]. 40% of reported cases correspond to pediatric age, with the highest incidence occurring during the adolescence [2]. It occurs more frequently in the feminine sex and it is frequently associated to ovarian teratoma (62%); dislike, it is less frequent in the masculine sex (5 to 8%) and usually with no tumor incidence [3-5]. The following risk factors have been identified: feminine sex, adolescence age and adulthood, viral comorbidities, family history of autoimmunity, genetics and ethnic predisposition [2]. Anti-NMDAR encephalitis can be associated to a virus infection by herpes simplex 1, influenza A H1N1 or tuberculosis meningitis, which predisposes to think that viral or bacterial infections can trigger the generation of anti-NMDAR [2] antibodies. During childhood, the following are predominant clinical expressions: epileptic crisis and movement disorders (mouth-facial dyskinesia, choreoathetoid movements in the limbs). In regard to teenagers, prevail psychiatric symptoms (schizophrenia like-psychosis), with few cases of hypersexuality reported [6,7]. The definitive diagnosis, is sustained with the determination of anti-NMDAR antibodies in the cerebrospinal fluid (CSF) (100% sensitivity and specificity) [3]. The functional and vital purpose improves, if the diagnosis and treatment are made in the first stages of the disease. In a great segment of cases (75%), full recovery is got and can take from several weeks to two years [2,6,8].

Purpose of the Study

The purpose of the current release is describing a case of hypersexuality and acute psychoses in a male teenager with anti-NMDAR encephalitis.

Case Presentation

The case was a thirteen year-old male patient, who started his initial clinical profile with non-complicated high respiratory malaise. After two weeks, there was headache, dizziness, vomiting, drawings and generalized tonic-clonic epileptic crisis for which he was admitted in the hospital. Next day, fever, hetero-aggressiveness, disorientation in time and space, bland smile, soliloquies, sudden mood swings, auditory and visual hallucinations, anguish, bazars behavior and delirious ideas of pursuit. During the later clinical evolution, conciliation sleeplessness and hypersexuality were found (uninhibited sexual language, excessive sexual impulses); the last one shown through twelve days. Firstly, a diagnosis of limbic encephalitis was determined, acute psychotic disorder and hypersexuality as a probable Kluber Bucy partial syndrome. Initial para-clinical profile was outstanding, considering the hematic biometry showed leukocytosis and neutrophilia. The CSF was reported pleocytosis with prevalence of monocytes and hyperprotein rachis, the polymerase chain reaction (PCR) for simplex virus 1 and mycobacterium tuberculosis were negative. In magnetic brain resonance no alterations were identified. In the electroencephalogram (EEG) a slow background rhythm was identified, as well as a Delta-Brush pattern (Figure 1).

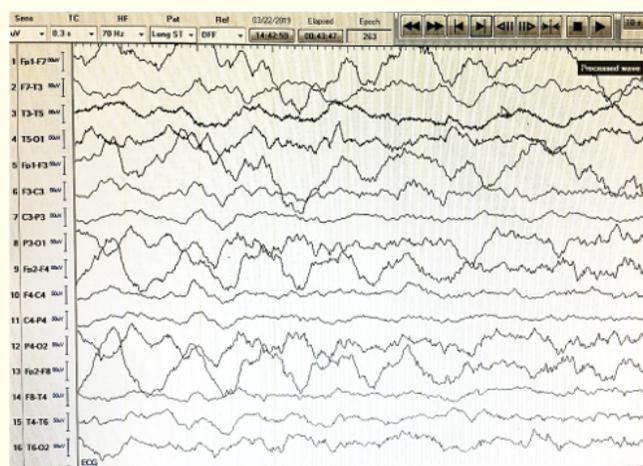


Figure 1: Longitudinal bipolar assembling, HF 70 Hz, Sensitivity 7uV, slow background rhythm, slow wave to bi-frontal predominance with overlap of quick rhythm and Delta Brush pattern.

In accordance to the facts, the diagnosis is focused to a probable anti-NMDAR encephalitis, for which the administration of methylprednisolone and immunoglobulin was started, with a partial clinical improvement. During diagnosis of the entity, no testicular neoplasia was identified, the CSF showed a positive title for anti-NMDAR antibodies (1:32). At the three weeks of hospitalization, bucolingual dyskinesia appeared, as well as epileptic status, which determined his admission to intensive therapy; he received continuous infusion of midazolam, and then levetiracetam and valproic acid was added, which helped control the epileptic profile. Rituximab was administered, as a second line treatment, with an adequate tolerance and clinical response; however, hetero-aggressiveness continued.

Discussion

The current case of anti-NMDAR encephalitis in a male teenager with a crisis of epilepsy, psychosis and hypersexuality. The clinical case was firstly catalogued as a limbic encephalitis; however, it's particular para-clinical in association to the electroencephalographic findings were determinant for final diagnosis.

This was a singular case, because they are a part of the 5 to 8% of anti-NMDAR encephalitis reported for masculine sex [3-5].

A patient came for attention with acute psychosis. It is a frequent clinical malaise, in teenagers and adults. Probably, it would be explained by a low function of NMDA receptor, something similar to what happens with schizophrenia (glutamatergic theory) [2,4].

Nonetheless, hypersexuality is scarcely-reported in teenagers; the current case corresponds to cardinal symptoms [9,10]. The concept, implies a judgment on an abnormal extent of sexual behavior, thinking or feelings [11]. In order to understand clinical expression, necessary is delimiting it as a symptom for anti-NMDAR encephalitis, where antibodies act against NMDA receptors located in the anterior cerebral cortex, pituitary and limbic system [2,4]. Probably, a dysfunction in the amygdala (limbic system), involved in the sexual interaction and aggressive sexual interaction can explain its existence [11,12]. Clinical entities, such as limbic encephalitis, Kluver-Bucy and Kleine-Levin's syndrome also show such a symptom [5].

Finally, the electro-clinical association was determinant for an early diagnosis and quick beginning of immunosuppressing treatment. Necessary is explaining that Delta Brush pattern is not pathognomonic of an anti-NMDAR encephalitis; however, 33% of cases of anti-NMDA encephalitis can bear it [13-16]. The electroencephalogram can be a supporting instrument to diagnose anti-N-methyl-d-aspartate receptor encephalitis.

Conclusion

Hypersexuality may be a predominant symptom in some cases of anti-NMDAR encephalitis in teenagers.

Authors Contribution

Daniel Cruz, María Andrea Linares: Work conception and design, compilation of information. Daniel Cruz, María Andrea Linares: Word-ing of draft. Daniel Cruz, María Andrea Linares, Wendy Merizalde: Critical revision of draft. Every authors read and approved the final version of the release.

Availability of Data

Free- and limited- use bibliographic resources were used. Compiled information is available under the main author.

Informed Consent

The publication is still waiting for approval by the Editorial Council of Hospital General del Norte de Guayaquil, IESS Los Ceibos.

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Conflict of Interests

Authors have not reported any conflict of interests.

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