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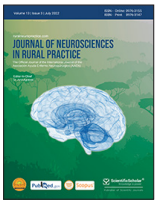

Brief Report

Rabies infection recognized as a psychosis: A misleading psychiatric presentation

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ABSTRACT

Rabies is a viral infection with a high mortality rate. Typical symptoms of rabies include hydrophobia, aerophobia, pharyngeal muscle spasms, and progressive paralysis. Psychiatric symptoms induced by rabies are not common. We report the case of a 26-year-old man in whom a quite typical clinical presentation of a brief psychotic disorder revealed rabies encephalitis.

Keywords: Rabies, Encephalitis, Psychiatric manifestations, Psychosis, Vaccine

INTRODUCTION

Rabies infectious disease remains a major public health problem in Morocco. Annually, an average of 20 cases of human rabies are reported, despite the development of the national rabies control program.[1]

Rabies is included in the new World Health Organization roadmap 2021–2030. Equally to any zoonosis, it requires close intersectoral coordination at the national, regional, and global levels.

Rabies encephalitis consists of a viral encephalitis which is mainly transmitted by the saliva of infected bats and some other infected mammals. The infection symptoms include fever, followed by agitation, hypersalivation, and hydrophobia; a psychiatric presentation is also possible. The diagnosis is based on skin biopsy using either fluorescent antibody or polymerase chain reaction tests. Vaccination is indicated in cases of high risk of exposure.

After exposure, prophylaxis includes wound care as well as passive and active immunoprophylaxis and, if performed promptly and meticulously, almost always prevents human rabies. Otherwise, the infection is almost always fatal. The treatment has a supportive role. We report the case of a 26-year-old man in whom a quite typical clinical presentation of a brief psychotic disorder revealed rabies encephalitis.

CASE REPORT

A 26-year-old man was admitted to the psychiatric emergency department accompanied by his family for an acute psychiatric episode lasting about 10 days.

The patient was never followed for any psychiatric disorder; he was a chronic cannabis user without any particular medical or surgical history.

Two weeks before his admission, the patient's speech had changed and became less coherent, and lost ideological associations. His condition rapidly aggravated and delirious speech appeared. He explained to his family that he is going soon to be recruited into his favorite international favorite football team, to become a professional soccer player that he knows it because everybody talks about it in the nearby coffee shop, besides his admiring fans was not mislead.

The symptomatology was complicated later by the occurrence of anorexia; his football enthusiasm and obsession for his projects preoccupied him day and night. Then, a behavioral weirdness appeared with an incessant instability at home even at nighttime when everyone was asleep. The patient becomes anxious, and more, aggressive, he explodes for no reason; could not tolerate neither noise nor the slightest movement around him. The patient locked himself in his room all day long and did not share any meals with his family. His family reported hearing him talking to himself and laughing loudly

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sometimes. The patient neglected his hygiene and he was no longer showering and refused to change his clothes, no longer paid attention to his look, and became pale with a thinner face. His room was in a chaotic state with cigarette butts on the bed and coffee spilled on the floor as well as a piece of bread blackened by mold; strange patterns were drawn with a marker on the wall. In view of his physical and mental deterioration, the mother of the patient decided to take him to the psychiatric emergency department. For that, she supplied his brother to bring him back by force since the patient refused to go to the hospital. Consequently, a violent confrontation took place between the two brothers, the patient comes out with a wound on his face.

The medical examination in the psychiatric emergency department revealed an agitated patient with an unstable psychomotor state, the patient rushed to close the examination room windows as soon as he entered the room while he justified this behavior by the fact that the wind frightens him.

He was easily irritable, heteroaggressive, incuric, with a fresh right temporal wound with regular edges and a healed wound on the leg that the family attributes to an accident due to the patient's agitation and aggressiveness. The speech was sometimes accelerated, sometimes slowed down and discontinuous. The patient was globally incoherent answering inappropriately and often blocks. His speech was globally disorganized with judgment issues. He verbalizes ideas of persecution without hallucinatory symptoms and poor insight. On the other hand, his vital signs were correct.

At this stage, several diagnoses were evoked, including a brief psychotic disorder, a delirious mania or a psychiatric disorder due to a medical condition. Thus, the patient was admitted in the hospital, treatment of his temporal injury was initiated. A complete assessment including brain imaging was started, and a prescription for antipsychotic treatment was done.

As soon as he was hospitalized, the patient presented a state of furious agitation which required isolation and injectable symptomatic treatment of diazepam and then haloperidol since he refused to take them orally.

Two hours after the isolation, the patient worsened with unconscious, dyspnea and feverish. A temporal compressive extradural hematoma related to the stabbing caused by the brother was evoked.

The patient was transferred to the somatic emergency room where he was immediately recognized by the emergency team, he consulted 10 days earlier after being bitten by a rabid cat. The injury caused anxious agitation, frissons, a sensation of unease, tiredness and a loss of appetite. The family has had refused medical care preferring to provide traditional treatment, and escaped the hospital.

The rabies encephalitis diagnosis was then retained since supported by the clinical criteria. The patient was intubated and admitted in the emergency shock department, but died the next day. The entire staff was vaccinated and a report was made to the rabies center.

DISCUSSION

Rabies is an infectious disease widespread in many parts of the world, particularly in undeveloped regions where the prevention is not effective and the methods of the disease control are restricted. It is an infection with a high case fatality rate. The subsequent encephalitis is then often fatal once the central nervous system is infected.[2] The expected worldwide rate of death due to rabies ranges around 55,000 deaths/year. Most deaths occur in Asia at a rate of 56% followed by Africa at 44%, while the rural regions of both continents are particularly infected. Besides, almost all deceased patients have had missed their optimal treatment window.[3]

Rabies is indeed an infectious disease of acute zoonotic manifestations originated by the rabies virus that is generating a severe affection of the human central nervous system. Such effects are frequently observed in carnivorous animals including dogs, wolves, cats, and bats. The rabies virus is characteristically exchanged by undergoing a bite of an animal which was infected by the rabies virus.

The incubation period is depending on age, the wound localization since a shorter incubation period is associated in patients bitten on the head or face, wound depth, and the charge and potency of the rabies virus. Insufficient sterilization of the lesion, other wounds, cold temperature, and stress might contribute to shortening the incubation period.[2] Besides, rabies virus infection consists of typical symptoms including aggressive behavior, hydrophobia, aerophobia, progressively evolving paralysis, and hypersensitivity to external effects such as sound, light, wind, and pain.

The clinical evolution of rabies infection is typically lasting <1 month; this consists of three stages.[2]

i. The prodromal stage is characterized by the occurrence of fever, and flu-like symptoms. Many patients might knowledge irregular sensations around the wound such as itching, numbness, pain, and formication.
ii. The excitative stage is characterized by showing hydrophobic symptoms and the patient could demonstrate paroxysmal spasm of the pharyngeal muscle. Besides, difficulty breathing, difficulty urinating and defecating, and hydrostomia might be expressed.
iii. The paralytic stage is generally recording a quiet patients become with develop flaccid paralysis, predominantly in the limbs; once facial muscles are concerned, irregular eye movements could raise, along with straining of the mandible, slacking of the mouth, and lack of facial expression.

The initial symptoms in our patient consisted of fever and anxious agitation. At the occurrence of the initial morsel injury, he did not receive any rabies vaccine. The course of symptomatology in our patient was atypical. Indeed, the patient did not evolve to the paralysis stage of rabies, and continued manifesting mainly psychiatric signs including aerophobia and hydrophobia and then rapidly worsened with impaired consciousness.

Thus, the variability in the clinical presentation of rabies would lead to misdiagnosis and might delay the treatment with fatal consequences. Our case showed that psychiatric symptoms might be the most important; therefore, psychiatrists and neurologists should always enclose rabies infection in their differential diagnoses when assessing newly examined patients, especially cases transferred from the rural communities.

Although rabies encephalitis has classic clinical features, magnetic resonance imaging (MRI) is the diagnostic imaging of choice for early assessment. MRI helps to differentiate rabies encephalitis from other encephalitides.[4]

At present, there is not any effective treatment to care symptoms of rabies virus infection. However, large-spectrum drugs against the ribonucleic acid (RNA) virus have been shown to be efficient in achieving preclinical rabies infection trials. Therefore, it was used successfully in humans infected with viruses of new RNA.[5] Besides, an emerging potential therapeutic target consists of the endocannabinoid system to relieve the symptomatic rabies infection.[5]

At present, all forms of rabies treatment recommendation are essentially palliative because there are no evidence based medicine treatment.[6] The present rabies infection treatment aims to decrease agitation, reducing the suffering with sedatives, analgesics, and antipsychotics.

Early vaccination after exposure to rabies virus infection is crucial to preventing any virus access into free nerves endings. It is primordial to achieve rabies immunoglobulin for any case of bites category 3, because a short incubation time might be predicted. In case of unavailable immunoglobulin, it is recommended to use injected rabies vaccine around the bit wound since detaining efficacy proved in experiments in hamsters.[6] However, there are no human studies; consequently, rabies immunoglobulin must always be provided if possible.

CONCLUSION

The management of human rabies is still preventive. The total eradication of the animal disease remains difficult to achieve in our country. Death is mainly caused by neglecting the animal bite and the low practice of vaccination or too late when used. The fight against rabies must include increasing awareness about the risk of rabies when faced to any animal bite. This requires multi-sectoral participation to provide community education and vaccination campaigns.

Declaration of patient consent

Patient's consent not required as patient's identity is not disclosed or compromised.

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Conflicts of interest

There are no conflicts of interest.

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