Rabies is endemic in many parts of the world, including India. It is diagnosed primarily on the basis of clinical symptoms and signs; and the diagnosis is easily considered with a corroborative history of animal bite. However, its presentation may mimic acute psychiatric illness, which may delay the diagnosis. We present here a case where the diagnosis of rabies was overshadowed by possibilities of complicated alcohol withdrawal symptoms and highlight the need to ask for history of animal bite in acute psychiatric presentations, especially in countries where rabies is still common.

Rabies is endemic in many parts of the world, and is especially common in India. Rabies is still common in many parts of the world, including India. It is diagnosed primarily on the basis of clinical symptoms and signs; and the diagnosis is easily considered with a corroborative history of animal bite. However, its presentation may mimic acute psychiatric illness, which may delay the diagnosis. We present here a case where the diagnosis of rabies was overshadowed by possibilities of complicated alcohol withdrawal symptoms and highlight the need to ask for history of animal bite in acute psychiatric presentations, especially in countries where rabies is still common.

Presentation
A 55-year-old male patient, known to have alcohol dependence, presented with a history of nausea, vomiting, irrelevant talk, tremulousness, irritability, restlessness and agitation for two days. He had history of consuming around two bottles of country-made liquor per day for more than 20 years. He had stopped alcohol four days previously for religious reasons. He was admitted in the intensive care unit (ICU) – his third admission within two years for alcohol withdrawal. There were moderate-to-severe alcohol withdrawal symptoms in two previous admissions: in the second admission, withdrawal was complicated with seizures. The patient was afebrile, with slightly raised pulse and BP. He had sweating, facial flushing, and mydriasis. An examination by a neurologist reported no focal neurological findings. Liver function tests revealed the following: total serum bilirubin 1.5mg/dl, SGPT 60IU/L and SGOT 80IU/L. There was moderate hepatomegaly. Other clinical investigations were normal, including CT scan of the brain. Alcohol withdrawal was considered as the diagnosis according to the criteria of Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR). He was prescribed lorazepam 2mg three times a day, olanzapine 5mg at night and multivitamins.

Psychiatric consultation was sought on fourth day of admission for increased severity of symptoms, which included irrelevant talk, shouting, irritability, hallucinatory behavior and insomnia. On examination, the patient was extremely irritable and agitated, and was frequently trying to get out of bed. He was talking as if he was on his farm ordering some people to carry out farm-related activities. He reported seeing the farm and people. He was extremely alert, excited and distractible even to minor sounds in ICU. He appeared fearful. There was hardly any eye contact and rapport. His attention was poor and concentration ill sustained. He was disoriented to time, place and person. He was unable to participate in a detailed cognitive examination. He had severe coarse tremors in his outstretched hands. There were no convulsions.

His relatives gave a history suggestive of chronic alcohol dependence and withdrawal. There was no report of any other substance use or psychiatric, medical or surgical history. The patient was given lorazepam 4mg and an injection of haloperidol 5mg. He did not show any improvement in the next 24 hours. At this time, following specific enquiry, his elder son reported that the patient was bitten by rabid dog three months before. He was prescribed lorazepam 2mg three times a day, olanzapine 5mg at night and multivitamins.
previously and received three injections starting around four to five days after the bite. The patient knew the dog was rabid, but he did not continue further injections.

Around fifth day of admission, he started having lip smacking-like movements and salivation. Gradually, hydrophobia, aerophobia and barking like a dog were observed. He was diagnosed as having rabies by the physicians and was transferred to a different hospital, where he died after two days. The diagnosis was based on clinical findings, including typical symptoms and history of dog bite; there was no scope for any ante- or post-mortem neuropathological or neurovirological investigations to confirm the diagnosis. There were no other investigations carried out following the clinical diagnosis.

Discussion
The clinical symptomatology of rabies is complex and commonly causes confusion among physicians. In a review, the majority (70.5%) of patients consulted several health care providers before a diagnosis of rabies was obtained; and in these patients, incorrect primary diagnoses given included acute psychiatric illness, anxiety and depression, among others. A study in India observed that 14.9% cases of rabies encephalitis had psychiatric manifestation; and it is interesting that in a minority of these patients dog bite history was missing.

The initial symptoms of rabies are often vague and can be easily mistaken for other conditions. These symptoms may include fever, fatigue, myalgia, problem sleeping, lack of appetite, headache, irritability, anxiety, depression, sore throat, gastrointestinal upset and vomiting. Later these proceed to encephalopathy, where, depending upon the type of rabies, a range of symptoms are observed. Many symptoms of rabies are psychiatric and behavioural in nature, eg anxiety, startling reactions, fearful expressions, irritability, agitation, insomnia, confusion, aggression, increased sexual arousal, abnormal behavior, features of mania, paranoia and hallucinations. Intermittent episodes of excitement, hallucinations and maniacal behavior have been described as typical symptoms of furious rabies. Differential diagnoses of furious rabies include hysterical pseudo-hydrophobia, delirium tremens, ingestion of drugs (phenothiazines and amphetamines) and plant (Datura fastuosa).

Similar to this case, there are reports where cases of rabies presenting as acute psychiatric emergencies were mistakenly suspected as schizophrenia, delirium tremens and acute manic excitement. All these highlight the challenges, as rabies can present as an acute psychiatric condition.

In the case presented here, various factors confounded the diagnosis of rabies. Initially the symptoms were not specific and were probably camouflaged by alcohol withdrawal symptoms. Concurrent alcohol withdrawal and similar history in the recent past complicated the presentation. In addition, history of dog bite and treatment were not available initially. While the above factors caused the delay in diagnosis, a lack of adequate response to treatment of alcohol withdrawal and an extreme degree of alertness raised clinical suspicion for other possibilities. It may be highlighted that even if people have received the post-exposure vaccination, as in this case, there may be a possibility of inadequate protection.

Many factors play a role in delaying the diagnosis of rabies in a number of cases. A low level of clinical suspicion for rabies in countries where it has been eradicated for a long time or is rare is one of the prime reasons. Unusual clinical presentation of rabies, including paralytic form or furious form initially mimicking sore-throat infection or acute psychiatric disorder, is a major confounding factor. A lack of medical familiarity with even the typical clinical features of the disease may lead to delay in or failure of diagnosis, especially in imported cases seen in more developed countries. Besides the above reasons, a negative history of animal bites or exposure to rabies can often delay the diagnosis.

It has been suggested that rabies should be suspected, even when a history of animal bites is missing, in patients with encephalitis or paralysis who originate or return from rabies-enzootic countries. It is essential to consider it, especially in rabies-prevalent areas, and in patients with atypical presentations, delirium, and those with increased risk of exposure such as wandering homeless patients with severe mental illness or intellectual disabilities. Consideration of this possibility is important, as a delayed diagnosis of rabies can have adverse public health consequences or exposure to health care staff.

Conclusion
Rabies can present with acute psychiatric symptoms, increasing the risk of missing the diagnosis,
especially in patients who are already known to have psychiatric problems. Diagnosis may become more difficult without a clear history of animal bite.

In this scenario, until specific symptoms or signs appear it may be difficult to suspect rabies. It is a learning point that in countries where rabies is still common, eg in India, and in case of non-response to usual intervention measures for psychiatric presentation, it is better to consider wider possibilities, including rabies, as differential diagnosis. To that effect, it is important to ask for history of animal bite during the initial assessments.

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