Psychotic Disorder Due to Neurosyphilis

To the Editor: Syphilis should be under control now, but there are still problems related to an increasing number of syphilis cases.[1]

Numerous studies have reported on the diagnosis and medical treatment of neurosyphilis, but there is currently no consensus on how to manage the psychiatric manifestations of neurosyphilis in Taiwan, to the best of our knowledge. Our case report of a patient with psychiatric symptoms and extrapyramidal symptoms (EPS) associated with neurosyphilis describes a treatment approach in the absence of rigorous published treatment protocols.

Case Report

"Mr. A" was a 48-year-old Asian man with no previous psychiatric history before November 2010. At that time, his family began noting his religious delusions, self-talking, thoughts of being controlled, and loosening of association. He was prescribed olanzapine in November 2010. Fluoxetine and an anticholinergic drug had also been administered since January 2011 by another psychiatrist. He was admitted in July 2011 because of persistent grandiosity, religious delusions, and self-talking. A chronic onset of bilateral hand tremor was also noted for several months.

After admission, we prescribed amisulpride and then shifted to olanzapine for his psychosis, but in vain. We also arranged brain computed tomography (CT) under the impression of organic psychosis, but this showed only mild brain atrophy. Also, we consulted a neurologist because of the patient's persistent slurred speech and bradykinesia, and we even stopped all psychotropics for 1 week. The patient also presented mask-like face and four-limb rigidity, with poor self-care, and the neurologist suggested a cerebral magnetic resonance imaging (MRI) survey, and medication with propranolol and Bendopar (benserazide+levodopa), if available. The Unified Parkinson's Disease Rating Scale (UPDRS) score was 159; the worst score is 199.[2] So we administered quetiapine, because of its lower EPS effect, to relieve his religious delusions and auditory hallucination. Then we slowly added propranolol and Bendopar, and closely monitored him to see if there would be any more bradycardia or psychosis. In the meanwhile, MRI revealed no definite abnormal signal intensity mass lesion in the brain.

The psychosis was not detectable then, but delirium, with cognitive decline at night, was noted intermittently for 2 weeks. A dementia survey ruled out early-onset dementia, but a serum Venereal Disease Research Laboratory (VDRL) test yielded a titer of 1:128 and a *Treponema pallidum* hemagglutination assay (TPHA) yielded a titer of >1:1280. The patient finally confessed that he had been treated for some kind of sexually transmitted disease about 20 years ago. A lumbar puncture was then done under the suspicion of neurosyphilis, and showed CSF VDRL 1:2 (reactive). After consulting an infection specialist, we prescribed penicillin 3 MU every 4 hours for 14 days and penicillin benzathine 1A intramuscular injection after 1 week. Eventually, the Mini-Mental State Exam (MMSE), after antibiotic treatment, revealed a score 24, and UPDRS was 71. Hence, the patient was discharged for outpatient department follow-up. After 4 months, a slight involuntary movement persisted, and UPDRS was 35, but the patient and his wife denied delusion or bizarre behavior after discharge. However, the VDRL test yielded a titer of 1:64 and TPHA yielded a titer of >1:1280. The infection specialist suggested a follow-up VDRL 3 months later, and the restart of another course of penicillin treatment at 3 doses if the VDRL was still high.[3,4]

Discussion

Symptoms of hallucinations, delusions, or disorganized behavior and speech could be relieved by psychotropics in many cases. However, this case provided another way to differentiate refractory psychosis; in this case, we accidentally found his neurosyphilis because of cognitive decline. This is a reminder for us to pay attention to atypical presentations of psychosis, such as a late age at onset or EPS concomitant with the use of antipsychotics that induce fewer EPS experiences. Also, some patients might conceal their sexual history in some conservative areas, or just forget about experiences they had if buying sex several decades ago. There is much obstruction in diagnosing a neurosyphilis patient.

Some case reports have mentioned psychosis or Parkinsonism in neurosyphilis.[5–7] Although the auditory hallucinations and religious delusions in our patient were no longer detected after penicillin treatment, we should continue observation of the patient's general condition in the outpatient department.[8]

Furthermore, the parkinsonism had improved after penicillin treatment, so it was difficult to determine whether the slurred speech, rigidity, and bradykinesia were related to the antipsycotics or secondary to neurosyphilis. Encephalitic illnesses resulting in parkinsonism are well known, and it would not be surprising for there to be some evidence of basal ganglia dysfunction in a patient with neurosyphilis affecting the brain,[9,10] although we had no specific findings in this patient's MRI.

On a psychiatric care unit, we might easily diagnosed and treat a patient as schizophrenic if the patient only presented with psychotic features. However, we meet refractory cases sometimes if we do not have the possibility of organic psychosis in our minds. In this case, we may find that people do not disclose their sexual history unless we repeatedly ask them. Therefore, we may sometimes judge some neurosyphilis patients to have refractory schizophrenia.

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