

CASE REPORT

A CASE OF PSYCHOTIC DISORDER DUE TO DENGUE FEVER

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Abstract

Objective: This case reported highlighted psychotic disorder due to dengue fever is rare. Hence we describe a case which clearly presented with psychotic symptoms during the illness. **Methods:** We reported a case of psychotic disorder due to dengue fever who presented with psychotic symptoms of auditory and visual hallucination, and persecutory delusion, which had significant temporal correlation with dengue fever symptoms. There were no neurological deficits noted, no altered sensorium and cognitive impairment during the episode. He has no past and family history of mental illness and there was no evidence of encephalitis and metabolic disturbances. **Results:** Our case suggests that prominent psychotic symptoms can occur during an episode of dengue fever, which remitted when one recovering from dengue fever. **Conclusion:** We demonstrated that patients who presented with the acute onset of psychosis accompanied by symptoms of viral fever should be screened for dengue fever, particularly if the person lived in or visited the area where dengue fever is endemic. *ASEAN Journal of Psychiatry, Vol. 18 (1): January – June 2017: XX XX.*

Keywords: Hallucination, Delusion, Psychotic Disorder, Dengue Fever

Introduction

Dengue fever is an arthropod-borne disease cause by a Flavivirus called Dengue Virus, which can be divided into four serotypes. The virus is carried and transmitted by *Aedes aegypti* mosquito, which tends to bite during the day. The mosquito is present in an urban area, unlike *Anopheles* mosquito, which causes malaria, which is present in the jungle. The incubation period of dengue fever is 4-7 days. The clinical features are characterized by high spiking fever with severe body aches and bone pain, eye pain, headache, nausea, vomiting, diarrhoea and may leads to severe dehydration. Onset of maculo-papular rash is usually after the onset of fever and other symptoms, around day 5 of fever, which may turn into a petechial rash later. Laboratory investigations are characterized by low total leucocyte and platelet counts on full blood

count and occasionally elevated liver transaminase level. Diagnostic laboratory test is by enzyme immunoassay to detect the Immunoglobulin M (IgM) antibodies against Dengue Virus (only positive by 4th or 5th day of fever) or by Polymerase Chain Reaction (PCR) (positive at day 1 to 4). In a small proportion of cases, dengue fever can be complicated by hepatitis and more dangerously dengue hemorrhagic fever (DHF) with bleeding tendency and blood plasma leakage and may even progress into dengue shock syndrome (DSS) which resulted in hypovolemia, hypotension and eventually death ensues.

Dengue fever is a common arthropod-borne disease in South-East Asia, and it has become a major health problem in Malaysia. The number of dengue cases has been on the rise in Malaysia as demonstrated by the increasing

number of cases from 19400 cases in 1997 to 49300 cases in 2008, which registered a 2.5 fold increase [1]. In 2013, the incidence of dengue fever in Malaysia had reached 143.27 per 100000 population while the incidence of dengue hemorrhagic fever was 2.6 per 100000 population, and the mortality rate was 0.31 per 100000 population [2].

Neuropsychiatric presentation in dengue is considered atypical presentation. Post-infectious neuropsychiatric sequelae such as dementia, amnesia and mania were reported [3]. Post dengue psychosis also was reported in case report [4]. Literature which reported psychotic disorder due to dengue fever is rare and this case account clearly illustrated psychotic symptoms presented during dengue fever.

Case Report

A 57 years-old Malay gentleman who is married, and a pensioner was referred to Psychiatric Outpatient Clinic with visual and auditory hallucination, and interrupted sleep accompanied by slight agitation for four days prior to referral. He described he was bothered by demons for the past four days prior to consultation where he complaint of experiencing vision of a few figures of clear black-and-white coloured demons appearing before him, threatening to kill him and his family. They also commanded him to stab his children which he refused to comply to. He responded to the demonic figures by fighting with them and tearing their clothes apart and slicing their flesh and bones where his wife noticed him holding a knife and swinging around in empty space. He also exhibited persecutory delusion complaining that these disturbances were attributed to someone had charmed him. However, there was absence of hallucinations in other modalities, other delusions, disorganised behaviour and speech. There was also no history of alcohol and drug intake. He gave a history of high-grade fever, myalgia, nausea, vomiting and flu-like symptoms i.e. running nose for past five days prior to referral, in which onset was one day prior to the onset of psychotic symptoms. There was no past and family history of mental illnesses. Nevertheless, he was a known case of diabetes mellitus with hyperlipidemia, and he was on oral

hypoglycemic agents. On mental state examination, he was calm and cooperative with good rapport; speech was relevant and coherent, affect was congruent to thought and orientated to place, person and time. There was no cognitive impairment where Mini Mental State Examination (MMSE) score was 27/30. On physical examination, he was alert and conscious, slightly dehydrated, blood pressure and pulse rate within normal range, temperature of 39°C but no rashes noted, systemic examinations, including central nervous system examination were normal and no signs of bleeding noted.

Laboratory tests revealed leucopenia of 3700/mm³ and thrombocytopenia with platelet count of 24000/mm³. Serum urea was normal but creatinine was raised at 140umol/L (serum urea and creatinine level was similar to baseline level, which was taken 2 months prior to this consultation), serum electrolytes were normal, liver transaminases were slightly elevated while thyroid function was normal. Fasting blood sugar was 10mmol/L.

He was admitted and computerized tomography (CT) Brain with contrast was performed, which was normal and revealed no evidence of meningitis, encephalitis or intracranial hemorrhage. Serological testing revealed highly elevated titres of Immunoglobulin M (IgM) and Immunoglobulin G (IgG) against Dengue Virus. Hence, the patient was diagnosed with psychotic disorder due to dengue fever, with hallucinations by referring to Diagnostic and Statistical Manual of Mental Disorder 5th Edition (DSM-V) diagnostic criteria. The patient was rehydrated with intravenous and oral fluid, and treated with oral Quetiapine extended release (XR) 100mg at night which was titrated up to 200mg on night. Patient's psychotic symptoms resolved over the next 3 days and his platelet count and blood investigations normalised within one week of admission, and he was eventually discharged with oral Quetiapine XR.

He came for follow up in a psychiatry outpatient clinic, six weeks after discharge with no recurrence of psychotic symptoms and physical examination revealed no significant findings. Oral Quetiapine XR was

discontinued and there was no recurrence of psychotic symptoms in subsequent months.

Discussion

Psychiatric manifestations in dengue fever are rarely reported. Psychiatric symptoms presentation in dengue had been demonstrated to be associated with dengue encephalitis [5, 6]. The more common psychiatric manifestations described in dengue fever are mania [7, 8], anxiety and associated symptoms as well as depressive symptoms [9]. Psychotic symptoms manifestation in dengue fever is not commonly reported. In a case report of post-dengue psychosis [4], only persecutory delusion is reported and the onset is 1 week after onset of dengue fever symptoms. On the contrary, this case presented with prominent auditory and visual hallucination as well as persecutory delusion and onsets of psychotic symptoms were coinciding with onset of dengue fever symptoms (1 day after onset of dengue fever symptoms).

Psychiatric manifestations in dengue fever could be due to viral encephalitis, metabolic disturbances or encephalopathy [6, 10]. However, in the case reported here, computerized tomography (CT) of the brain scan with contrast reported normal findings with no evidence of encephalitis. Furthermore, there was also no neurological deficit and no altered sensorium exhibited by the patient. The serum electrolytes and serum urea were within the normal range while serum creatinine was also not elevated (serum creatinine levels similar to the baseline serum creatinine level taken 2 months prior to consultation) and hence a possibility of psychiatric manifestations due to metabolic disturbance was excluded as well.

This case report illustrated that prominent psychotic symptoms can occur as early manifestations of dengue fever, which is not caused by encephalitis, encephalopathy or metabolic disturbances. It may be solely attributed by the infection itself. Therefore, this case report demonstrated that patients who presented with an acute onset of psychotic symptoms associated with history of viral fever symptoms (flu-like symptoms, like symptoms, high-grade fever, nausea, vomiting, diarrhea) should be screened for dengue fever,

especially if the patients live in or visited the area where dengue fever is endemic.

Conflict of interest

None

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