

Abstract

Background: It is widely believed that environmental causes play an important role in the pathogenesis of schizophrenia and viral causes has been implicated as early as the 19th century. Borna disease virus (BDV) is a negative-stranded, enveloped, non-cytolytic RNA virus characterised by neurotropism and a wide host range. The clinical, neuroanatomical and neurochemical changes observed in experimentally infected animals suggests that BDV may be related to human psychiatric disorders including schizophrenia. Evidence of an association between BDV infection and schizophrenia has also emerged recently. Little is known about the seroprevalence rate of BDV in patients with schizophrenia locally.

Method: This is a case-control study examining the prevalence of BDV-specific antibodies in local Chinese patients with schizophrenia using Western blot technique. The serum samples of healthy local Chinese blood donors matched for age were used as controls. We also examined the clinical profiles of our patient sample using standardised instruments. Within-group comparison was made between patients who were seropositive and those who were seronegative in terms of their clinical profiles.

Results: We found a significantly higher BDV seroprevalence rate in patients with schizophrenia (22.7%) than healthy blood donors (11.5%). The odds ratio for BDV seropositivity was 2.27 (95% confidence interval=1.02-2.28). No association between seropositivity and patient status, age, age of onset, duration of illness, duration of untreated psychosis, treatment response, history of self-harm, history of violence, subtype of illness, dosages of antipsychotic medication, family history of psychiatric disorder and scores on the PANSS was found.

Conclusion: Our results suggest that BDV may be important in the pathogenesis of schizophrenia in the local population and the significantly higher seropositivity rate among patients with schizophrenia is consistent with previous studies. Further research is indicated to clearly elucidate the characteristics of patients for whom BDV may be aetiologically relevant.