Probable nipa palm wine-associated hepatitis a outbreak after attending a funeral ceremony in Sabah

ABSTRACT

Foodborne outbreaks of hepatitis A virus (HAV) are most commonly associated with fresh and frozen produce and with various types of shellfish. Alcoholic beverage-borne outbreaks of hepatitis A are extremely rare. Here, we report an outbreak of hepatitis A associated with the consumption of a traditional wine at a funeral ceremony in the Sabah state of Malaysian Borneo. Confirmed cases were determined by serum anti-HAV immunoglobulin M and/or for fecal HAV by reverse transcription polymerase chain reaction (RT-PCR). The amplicons of RT-PCR were subjected to nucleotide sequencing followed by phylogenetic analysis. We conducted a 1:2 case–control study to identify the possible exposure that led to the outbreak. Sixteen patients met the case definition, they were 18 to 58 years old and 90% of them were males. The case–control study showed that the consumption of nipa palm wine during the ceremony was significantly associated ($P = 0.0017$) with hepatitis A infection (odds ratio, 5.44; 95% CI, 1.80–16.43). Untreated river water was used to dilute the traditional wine, which was assumed to be the source of the infection. Phylogenetically, these viruses belonged to genotype IA and formed an independent cluster with strains from Taiwan, Japan, and the Philippines. This strain might be an emerging HAV in Asian countries. Environmental assessments were performed and environmental samples were negative for HAV. The incidence of hepatitis A in Sabah was also determined and it was 0.795/100,000 population. Strict monitoring of traditional wine production should be implemented by the local authority to prevent future outbreaks.