Etiology, symptoms and epidemiology of new mysterious hepatitis outbreak in children; do’s and don’ts

Tella Sadighpour1, Mohamad Kogani2, Hamid Hosseinpour3, Ramin Talaie4, Nahid Dadashzadehasl5*, Rohollah Valizadeh6*

1Herbert Wertheim College of Medicine, Florida International University, Florida, USA and American University of Antigua College of Medicine, Antigua and Barbuda
2Research Center for Environmental Contaminants (RCEC), Abadan University of Medical Sciences, Abadan, Iran
3Urmia University of Medical Sciences, Urmia, Iran
4Department of Gastroenterology and Hepatology, School of Medicine, Shahid Modarres Hospital, Shahid Beheshti University of Medical Sciences, Tehran, Iran
5Legal Medicine Research Center, Legal Medicine Organization, Tehran, Iran
6Student Research Committee, Department of Epidemiology, School of Public Health, Iran University of Medical Sciences, Tehran, Iran

*Correspondence to Nahid Dadashzadehasl, Email: nahiddadashzadeh.forensic21@gmail.com; Rohollah Valizadeh, Valizadeh.r@tak.ium.ac.ir

Received 5 May 2022
Accepted 27 May 2022
Published online 5 June 2022

Keywords: COVID-19, Hepatitis, Adenovirus

R

ecently, three patients of severe hepatitis in children less than 10 years in Spain and 74 patients mostly aged 2-5 years in the United Kingdom, and also nine patients in Alabama aged 1-6 years were reported (1, 2). The mortality following reported hepatitis was rare however it resulted in severe form of illness showing the liver inflammation in which 6 out of 74 patients in the UK, one out of three cases in Spain and two out of nine cases in Alabama required liver transplantation (3, 4). According to a study by Marsh et al, mysterious hepatitis in which thirteen patients with hepatitis were admitted to the Royal hospital for children in Glasgow while their routine cases were 4 cases per year (5). Laboratory tests revealed that the possible etiology is adenovirus extracted from more than 50% of the patients in the UK and Alabama (1). It is essential to conduct further laboratory and epidemiologically research to find the strong evidence. By 29 April 2022, 169 patients of hepatitis with unknown etiology have been reported from 12 countries in which 74 out of 169 patients were positive for adenovirus (6). According to the Pan American Health Organization (PAHO) report, adenovirus-41 was detected in 5 out of 9 patients by reverse transcription polymerase chain reaction (RT-PCR) (7). Although adenoviruses were rarely linked with hepatitis in pediatric with immunodeficiency but not in healthy people (8). Regarding the symptoms of hepatitis, jaundice, abdominal pain, vomiting, diarrhea, encephalopathy, elevated aspartate transaminase (AST) or alanine aminotransferase (ALT) > 500 IU/L, white eyes and yellow skin, hepatomegaly are common in the reported cases (7, 9, 10). Therefore, paying attention to the hepatitis caused by adenovirus is crucial by health authorities due to severe complication and measure like hand-washing before and after having food and avoiding blood contact to...
stop the transmission of the hepatitis in young children are necessary.

Authors’ contribution
TS, MK, ND and RV were the principal investigators of the study. HH, RT, RV, ND and TS were included in preparing the concept and design. HH and RV revisited the manuscript and critically evaluated the intellectual contents. All authors participated in preparing the final draft of the manuscript, revised the manuscript and critically evaluated the intellectual contents. All authors have read and approved the content of the manuscript and confirmed the accuracy or integrity of any part of the work.

Conflicts of interest
The authors declare that they have no competing interests.

Ethical issues
This epidemiology and prevention letter was conducted in accord with the World Medical Association Declaration of Helsinki. Besides, ethical issues (including plagiarism, data fabrication and double publication) have been completely observed by the authors.

Funding/Support
None.

References