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PERSPECTIVES

Time to Reconsider Hepatitis A Vaccination in Food Handlers: Are We Seeing More Outbreaks and Severe Disease?

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The risk for secondary infection from hepatitis A-infected food handlers to patrons is deemed as low. Thus, hepatitis A vaccination is not specifically recommended for persons who handle food in the absence of other risk factors in the United States. We describe an ongoing food handler-associated hepatitis A outbreak in southwest Virginia and recommend policy changes that will incentivize food industry employers to embrace broader food handler hepatitis A vaccination.

Keywords. food handlers; hepatitis A; vaccination.

Hepatitis A is a vaccine-preventable communicable liver disease caused by the hepatitis A virus (HAV). It is primarily transmitted via the fecal-oral route either by person-to-person contact or by ingestion of contaminated food or water. Risk factors include intravenous drug use (IVDU), travel to endemic areas, having sex with someone infected by HAV, and poor hygiene and sanitation practices. In the United States, the rate of new HAV infections declined by more than 95% from 1996 to 2011 after the introduction of a childhood hepatitis A vaccination strategy [1].

Since 2016, there has been an increase in the reported number of hepatitis A cases. In 2019, 18 846 cases of acute hepatitis A were reported to the Centers for Disease Control and Prevention, representing an increase of 1325% from the 1390 cases reported in 2015 [2]. Although this increase is thought to be primarily due to outbreaks in people who use drugs and persons experiencing homelessness, a limitation of this data was that a large proportion (65%) of the reported hepatitis A cases had no identifiable or recorded risk factor for contracting hepatitis A [1]. Food handlers are not at higher risk of acquiring hepatitis A due to their occupation; however, they have been identified as accounting for 4%–8% of individuals with acute hepatitis A, when occupational data is reported, reflecting the number of persons employed in the industry [3, 4]. Approximately 60% of food handlers with acute hepatitis A have also been recorded as having worked during a time when they were potentially infectious and could be a source for secondary transmission to their patrons. Some had no symptoms [4]. However, secondary infection from hepatitis A-infected food handlers to their patrons is deemed as low during outbreak investigations, and preemptive food handler HAV vaccination is not seen as a cost-effective national policy to prevent large-scale transmission and foodborne outbreaks [2, 3].

In mid-October 2021, the Roanoke City and Allegheny Health District in southwest Virginia, reported an HAV outbreak involving 49 confirmed cases possibly stemming from an infected food handler who worked in a local restaurant [5, 6]. There were 31 hospitalizations and 3 deaths attributed to this outbreak at the time of this report. The average age of the 34 patients seen in our health system was 62.5 years (range, 31–80), and 100% of these patients were White. None were experiencing homelessness, 1 used recreational drugs, and 1 was a man who has sex with men (MSM). More than three quarters of the patients were confirmed to have either eaten or worked at the source restaurant or to live with someone who had been infected at the restaurant. No data were available for the other one quarter of patients. The average age of the 16 hospitalized patients in our health system was 66 years (range, 41–80) and none were known to have chronic liver disease. Of the 8 samples sent for whole-genome sequencing, all returned as the sub-genotype Michigan IB Cluster 2. This food handler-associated hepatitis A outbreak in southwest Virginia has been characterized by a high rate of hospitalization and death. As with similar outbreaks, a broad campaign to identify and offer timely postexposure HAV vaccination to restaurant patrons, employees, and to close contacts of infected people was undertaken [7].

Recommendations for hepatitis A vaccination are focused on strategies to vaccinate those who are at the highest risk of

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infection including individuals experiencing substance use, incarceration, homelessness, or identifying as MSM [3]. This strategy is based on data reported in a 2016–2019 survey in which two thirds of hepatitis A-infected food handlers reported risk factors commonly associated with large person-to-person outbreaks [3]. However, some of the same risk factors such as active drug use and homelessness that make these individuals the main targets of hepatitis A vaccination campaigns may also make them more difficult to locate, obtain consent for vaccination, and vaccinate, after the fact.

An efficient strategy to use in conjunction with efforts to vaccinate high-risk groups may be to incentivize employers to preemptively vaccinate individuals who have or are seeking employment in the foodservice industry. We admit that this strategy will not prevent the foodborne hepatitis A outbreaks associated with food contamination during growing, processing or distribution, but it should be seen as part of an incremental process to achieve food safety [4]. This may also be a cost-effective strategy because the cost of controlling outbreaks by providing postexposure prophylaxis via immunization or immunoglobulin is high. The financial burden of public health responses to hepatitis A outbreaks related to food handlers was evaluated by Morey et al from data collected in 2012–2014 [8]. Their analysis found that each public health response likely exceeded $40 000.

Secondary transmission events related to HAV-infected food handlers may be low, but it is plausible that with the emerging increased incidence of subgenotype 1B causing outbreaks in the United States, we may see increased severity of disease in HAV-infected food patrons due to the higher virulence of this strain [9]. This is speculative at present but could explain why our outbreak cases had a high hospitalization rate [10].

Policy changes that encourage or reward food industry employers to embrace preemptive hepatitis A vaccination among food handlers will likely limit any silent and unrecognized transmission events that could conceivably be accounting for the high proportion of hepatitis A cases in the United States among persons who do not have an identified risk factor and could contribute to the overall reduction in foodborne hepatitis A outbreaks [2, 4].

Notes

Potential conflicts of interest. All authors: No reported conflicts. All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest.

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