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There is a high seroconversion rate of HBV and HCV in dialysis units in Georgia. Infection control practices and HBV vaccination coverage should be improved to decrease HBV and HCV transmission among patients on dialysis



Hepatitis B and hepatitis C testing practices and seroconversions among dialysis facilities in Georgia



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1 Introduction

Hemodialysis can facilitate transmission of hepatitis C and hepatitis B as a result of a large number of patients receiving treatment in a shared space. Strict adherence to infection prevention and control practices is essential to prevent transmission through contaminated equipment and surfaces. Despite a comprehensive hepatitis C Elimination Program in Georgia, there is currently no system in place to adequately capture the prevalence of chronic HBV infection or chronic HCV infection and to promptly identify cases of HCV and HBV seroconversion among persons receiving dialysis.

2 Aim

This study evaluates HCV and HBV testing practices among patients receiving dialysis and estimates the number of seroconversion cases in dialysis units in Georgia.

3 Method

- All 27 dialysis centers in the country were invited to participate
- Facility questionnaires were completed by the infection control representatives at each center from April to June, 2021
- Respondents were asked about HBV and HCV screening practices, and the number of seroconversions among patients in the preceding year
- Data entry, management and analyses were conducted using the statistical package SPSS v.22.0

5 Conclusions

The high seroconversion rate of HBV and HCV infections at dialysis units suggests opportunities for improved infection prevention practices and need for increased hepatitis B vaccination efforts. Surveillance could help identify cases and clusters early and contribute to preventing infection in this high-risk population

6 References

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4 Results

A total of 22 (81.5%) dialysis centers participated in the survey. At the majority of facilities (n=21/22, 95.5%) HBV screening was performed upon admission to the center, where the most commonly used test was HBsAg (n=17/22, 77.3%). Only 4 (18.2%) facilities stored samples after testing. At 13 (59.1%) facilities susceptible patients were routinely vaccinated for hepatitis B. Of these, only 8 (61.5%) administered HBV vaccine series to all susceptible patients (anti-HBs negative, anti-HBc negative, HBsAg negative). Only 6 (27.3%) facilities performed post-vaccination testing for titers after HBV vaccine. Of the 21 facilities that performed intake screening, the majority (n=20/22, 95.2%) also performed periodic HBsAg screening (every 6 months (n=11/20, 55.0%) and once a year (n=6/20, 30.0%)) for patients who were/ remained susceptible. At 7 (31.8%) facilities patients with vaccine-induced immunity were periodically tested (e.g., annually) for anti-HBs, of which only 2 (28.6%) were administering the booster doses of HBV vaccine for waned immunity. 16 (72.7%) facilities performed HBV testing on site.

15 (68.2%) facilities performed anti-HCV screening upon admission to the center, of which 11 (73.3%) confirmed antibody-positive tests by RNA or NAT. In 18 (81.8%) facilities anti-HCV screening was performed periodically (once in 6 months (n=12/18, 66.7%) and once a year (4 - 22.2%) for patients who were/ remained susceptible. In 17 (77.3%) facilities alanine aminotransferase (ALT) was checked periodically (once in 3 months (n=10/17, 58.8%) and once in 6 months (n=3/17, 17.6%)). Only 4 (18.2%) facilities stored samples after testing. 17 (77.3%) facilities performed HCV testing on site

Last year, 31 HBV patients from 8 dialysis facilities and 39 HCV patients from 7 facilities seroconverted. At 10 (45.4%) facilities when seroconversion was detected, the patient's treatment practice was changed. Only 10 (45.4%) facilities reported new cases of seroconversion to National Centre for Disease Control and Public Health (NCDC) or to the local public health center.

HBV/HCV seroconversion was documented at 10 (45.4%) facilities - At 8 (36.4%) for HBV and at 7 (31.8%) for HCV.

HCV/HBV testing and HBV vaccination

Characteristics	All facilities	Facilities with seroconversion cases
HBV screening performed upon admission to the center	21 (95.5%)	10 (100%)
Patients routinely vaccinated with the hepatitis B vaccine	13 (59.1%)	6 (60.0%)
Anti-HCV screening performed periodically for patients who are/remain susceptible	18 (81.8%)	8 (80.0%)
Anti-HCV screening performed upon admission to the center	15 (68.2%)	7 (70.0%)
HCV testing performed on site	17 (77.3%)	7 (70.0%)
HBV testing performed on site	16 (72.7%)	7 (70.0%)