OCTOBER 11-12, 2024 MILAN, ITALY
DeltaCure 3rd International Meeting
P21
Poster for you

Complexities of Hepatitis Delta Virus Testing in a High HBV Prevalence Setting in London

Naomi Kokkinos[1], Thendral Kandaswamy Murugesan[1], Andrew Millar[1], Georgina Kerry[1], Khin-Nyo Wai-Mon[1], Eleni Nastouli[2], Anna Maria Geretti[1,3]

1. North Middlesex University Hospital; 2, University College Hospital, London; 3. University of Rome Tor Vergata, Rome

Introduction

- Historically, HDV testing of individuals with chronic hepatitis B virus (HBV) infection has not been systematically implemented and both antibody and RNA assays have shown inconsistent performance.
- This study aimed to evaluate the prevalence of anti-HDV in a North London population with high rates of chronic HBV infection and determine the proportion of individuals with anti-HDV that also had detectable HDV RNA before the (as yet limited) introduction of Bulevirtide.

Methods

- We identified all positive HBsAg tests obtained between 2018 and 2022 (5 years) in the National Health System (NHS) diagnostic laboratory of the North Middlesex University Hospital in North London (sources below).

Specialist hepatitis service
Other outpatient services
A&E opt out testing
Sexual health services
Primary Care

- Unique HBsAg positive records were cross-referenced with anti-HDV antibody and HDV RNA tests. Demographic and clinical data were retrieved from electronic patient records.

Anti-HDV Antibody testing

Diasorin ETI-AB-DELTAK2 assay → March 2019 → Liaison® XL Murex Anti-HDV assay

HDV RNA testing

In-house real-time PCR assay

- As part of the study, HDV RNA negative samples underwent retesting for anti-HDV by the Liaison assay and retesting for HDV RNA by a different in-house assay at the UK Health Security Agency reference laboratory.

Results

Total HBsAg positive tests = **1822**

53.2% (970/1822) were tested for total anti-HDV Ab (testing uptake being almost complete within the specialist hepatitis service and largely absent in other settings)

48/970 (4.9%) individuals had ≥1 reactive anti-HDV result

12 **(25%)** of these 48 individuals, the initial positive Diasorin result did not confirm upon retesting with the Liaison assay; all lacked detectable HDV-RNA

Demographics:

1. **Gender –** 37.5% male (18/48), 62.5% female (30/48)
2. **Age –** median age of 46 years (IQR 38-55)
3. **Ethnicity –** Black African n=19; Eastern/Southern Europe n=18; South/East Asia n=5

HDV Seroprevalence

36/970 (**3.7%**; 95% CI 2.6-5.1%)

HDV RNA detection in individuals with anti-HDV reactivity

7/36 (19.4%)

Conclusion

- Our data indicate incomplete HDV testing in individuals with HBsAg, but highlight that testing is now routine within the hepatitis service.
- The population with HDV test results was therefore typically already engaged with HBV care.
- At 3.7%, HDV seroprevalence was in line with our previous estimates for the UK (2.1 to 5.3%; Stockdale et al. J Hepatol 2020).
- In this cohort, only 1 in 5 individuals with anti-HDV also had detectable HDV RNA, which is a lower prevalence of viraemia than we expected based on data from other cohorts.
- Given the diversity of the population with anti-HDV in our study, the lack of detectable HDV RNA warrants confirmation with additional assays.

Reference

1. Stockdale AJ, Kreuels B, Henrion MYR, Giorgi E, Kyomuhangi I, de Martel C, Hutin Y, Geretti AM. The global prevalence of hepatitis D virus infection: Systematic review and meta-analysis. J Hepatol. 2020 Sep;73(3):523-532. doi: 10.1016/j.jhep.2020.04.008. Epub 2020 Apr 23. PMID: 32335166; PMCID: PMC7438974