May Hepatitis D occur in Hepatitis B negative patients?

Unorthodox transmission modes of HDV

NATALIA FREITAS
HDV virion and its envelope

Reverse genetics system for HDV production in vitro and infectivity assays
HDV assembly with VSV and HCV glycoproteins

- Also true for LCMV, HMPV, **DENV** and WNV glycoproteins
HDV assembled with VSVg and HCV E1E2 GPs is infectious.
In vitro transmission of HDV by co-infection with HCV and DENV
In vivo co-infection of HDV and HCV
HDV presence in a cohort of HCV-RNA positive patients

160 HCV RNA positive sera from Venezuela aged 12-85 years (mean 48.5 ± 16.8 years)
HCV genotypes: 50% G1, 43% G2, 6.4% G3, 0.7% G6

2/160 anti-HDV positive (1.25%)

1/2 HDV RNA positive by nested RT-PCR

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<th>Age</th>
<th>Sex</th>
<th>HCV genotype</th>
<th>HBsAg</th>
<th>Anti-HBc1</th>
<th>HBV DNA2 (qPCR and ddPCR)</th>
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<th>HDV RNA3</th>
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Conclusions

• In vitro, envelope GPs from several viruses (vesiculovirus, flavivirus and hepacivirus) can package HDV RNPs – assembly and egress of infectious HDV

• HCV can propagate HDV infection in the liver of co-infected humanized mice for several months

• HDV immunological markers were found in 2 patients (1 positive for HDV RNA) with HCV but negative for HBV

• Discovery of HDV-like agents in a broad host range (several taxonomic hosts) in the absence of hepadnaviruses
Thank you!