29th ECCMID Amsterdam, Netherlands 13 – 16 April 2019

The congress of ESCMID

O1038 Epidemiology and phylotype dynamics of hepatitis E viral disease in Belgium, 2010-2017

Vanessa Suin[1], Sofieke Klamer*[1], Veronik Hutse[1], Magali Wautier[1], Majorie Jacques[1], Mona Abady[1], Sophie Lamoral[1], Vera Verburgh[1], Sophie Quoilin[1], Isabelle Thomas[1], Bernard Brochier[1], Lorenzo Subissi[1], Steven Van Gucht[1]

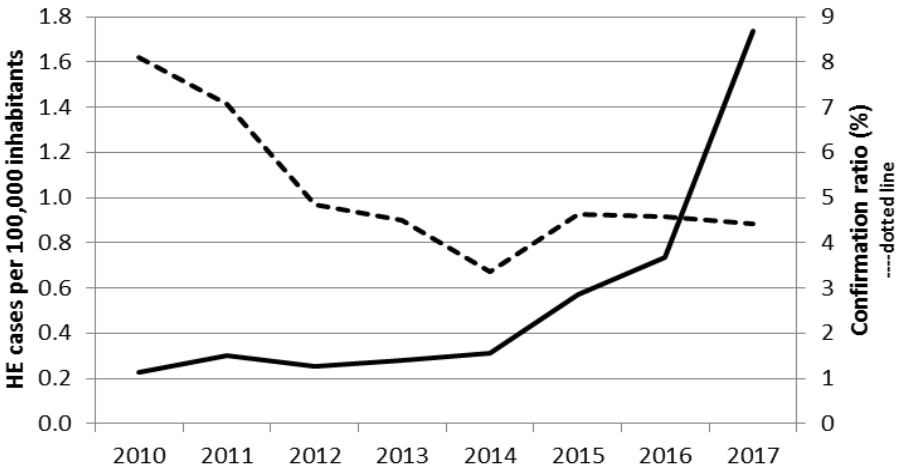
[1] Sciensano, Brussels, Belgium

Background: Reported cases of autochthonous hepatitis E viral disease have increased in the last decade in many European countries and concern mainly genotype 3 (HEV-3). Little is known about the distribution of hepatitis E viral subtypes among identified cases and the distribution of cases among age groups and regions in Belgium. We aim to identify epidemiological trends of hepatitis E cases since 2010 and to describe phylotype dynamics.

Materials/methods: Molecular and epidemiological data was collected by the National Reference Centre (NRC). Suspected patients were patients for whom clinicians requested either hepatitis E serology and/or polymerase chain reaction (PCR) analyses. Confirmed cases were IgM and/or PCR positive individuals.

Results: Median age of hepatitis E cases was >50 years. The overall confirmation ratio (confirmed cases/suspected patients) dropped from 8.1% (2010) to 3.5% (2014) and increased to 4.6% (2015) and 4.4% (2017). Successful genotyping was performed on 223/263 PCR-positive samples (85%). Among those, 92% were of genotype HEV-3. Confirmed HEV-3 cases increased from 0.21 (2010) to 0.98 per 100,000 inhabitants (2017), whereas the reported number of cases per population was higher in the South of Belgium, with higher numbers of confirmed HEV-3 cases per population in Wallonia (1.22) and Brussels (1.17) compared to Flanders (0.81 per 100,000 inhabitants, 2017). Overall most common subtypes among the HEV-3 strains were 3f, 3c and 3e. Subtype 3c cases increased significantly from one (2010) to 36 cases (2017), whereas other HEV-3 subtypes remained stable or showed milder increase (3f).

Conclusions: The continuous increase in the number of hepatitis E confirmed cases between 2010-2017 indicates probably a rising awareness among physicians in Belgium. The stable to slightly increasing laboratory confirmation ratio between 2014 and 2017 indicates that infection pressure most likely did not drop between 2014 and 2017 in Belgium. Hepatitis E viral phylotypes identified from patients were similar to and interspaced with those identified from Belgian swines, suggesting transmission from pigs to humans. Studies to detect hepatitis E virus in food products will contribute to shape dietary recommendations for high risk groups (e.g. immunocompromised) and identify possible interventions in food production processes.


HE cases per 100,000 inhabitants
Confirmation ratio (%)
----dotted line
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
9
8
7
6
5
4
3
2
1
0
2010
2011
2012
2013
2014
2015
2016
2017