

FIRST REPORT ON THE DETECTION OF HEPATITIS A AND E VIRUSES IN ENVIRONMENTAL AND HUMAN SAMPLES IN MENDOZA. ARGENTINA

Lo Castro I.1, Cuello H.1, González J.2, De Paula V.3, Villar L.3, Espul C.1

1Viral Laboratory. Hospital Central, Mendoza, Argentina

2 National Reference Laboratory for Viral Hepatitis. Instituto Carlos G Malbrán. Buenos Aires. Argentina.

3Viral Hepatitis Laboratory Fundación Osvaldo Cruz, Instituto Osvaldo Cruz. Rio de Janeiro. Brasil

BACKGROUND

Fecal contamination of water and food is associated with the transmission of viral pathogens such as hepatitis A and E viruses (HAV and HEV). Universal, single-dose HA vaccination at 1 year of age was introduced in Argentina in 2005, reducing the incidence of the infection and its consequences. The prevalence and health impact of HEV in our community is still unknown, especially in vulnerable groups. The search of both viruses in environmental and human samples during a same period of time contributes to an integral surveillance of their circulation, being able to evaluate the possible health impact on a population, especially in groups with increased risk associated to its infection.

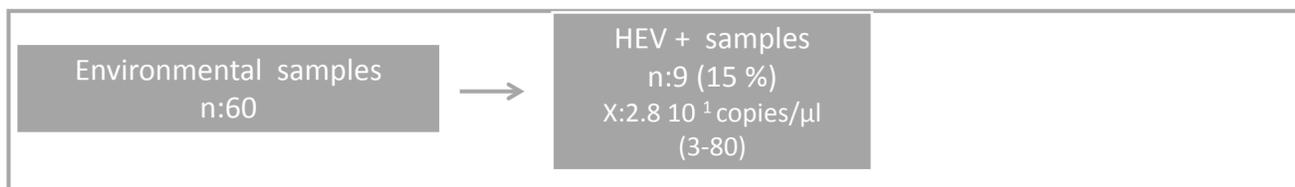
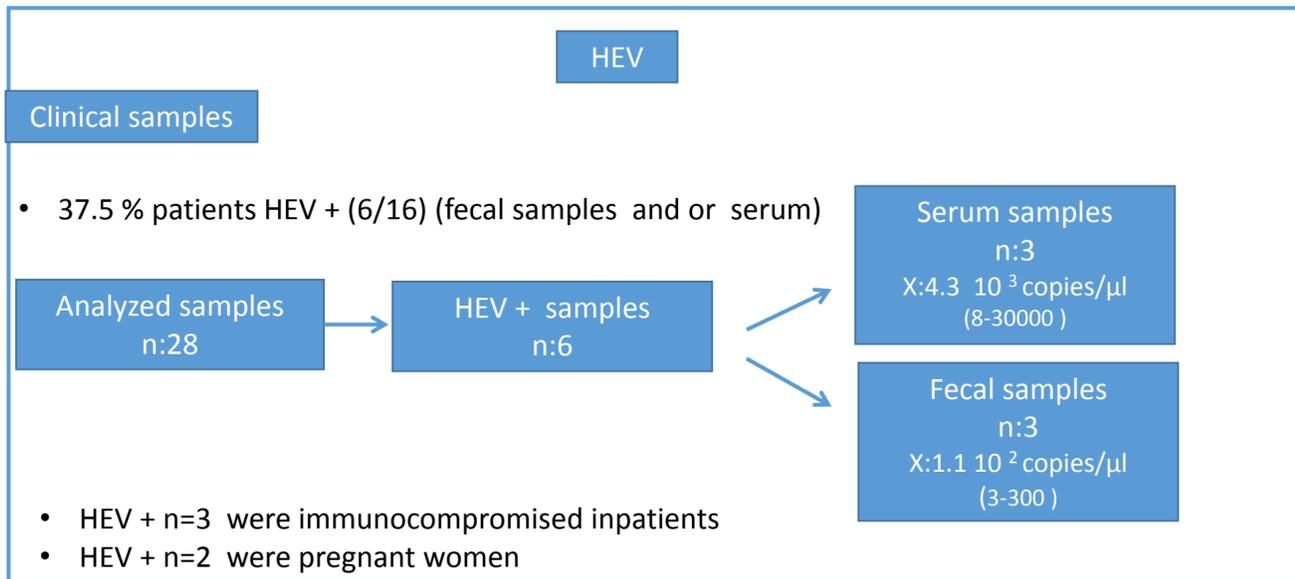
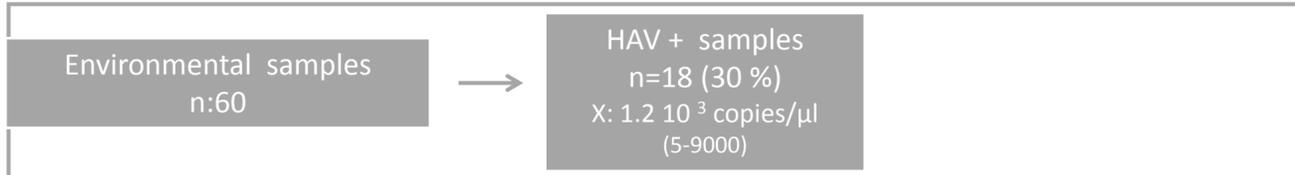
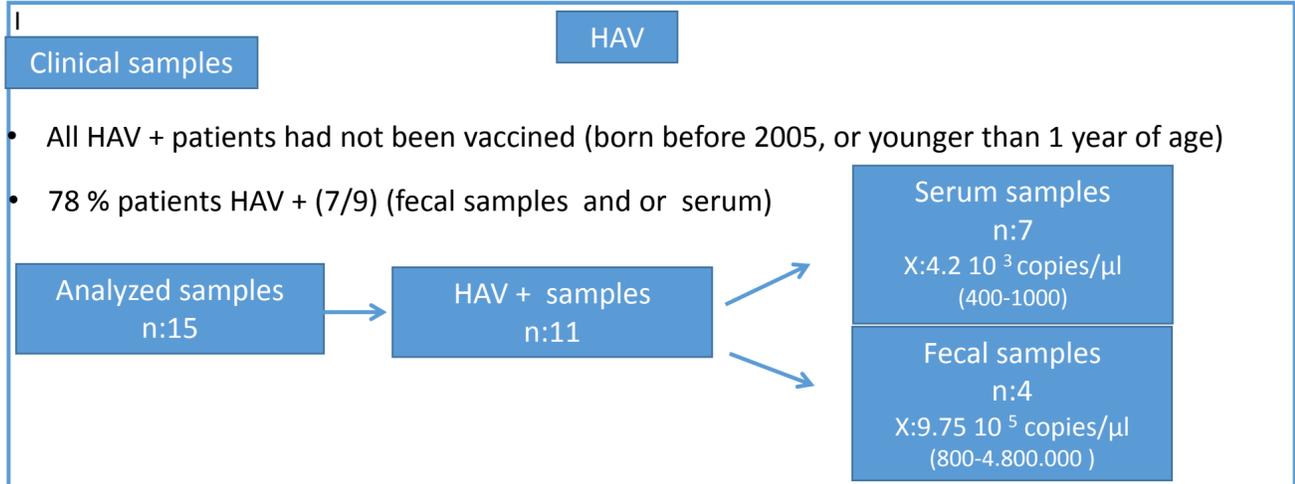
METHODS

- Between February 2015 and February 2017 a total of 60 samples of raw sewage from two effluent treatment plants were collected, filtered, concentrated and analyzed for HAV and HEV.
- During the same period, 9 and 16 patients with clinical suspicion and epidemiological link for hepatitis A and E respectively, were studied in serum and / or fecal samples.
- The clinical samples have been discarded previously for HBV, HCV, CMV EBV and HSV as viral etiological agents.
- We used qPCR methodology for the diagnosis of both viruses

REFERENCES

- Munne, M., Altbert NR., Vladimirov SN., Moreiro R., Mares LO., Soto SS., Brajterman LS., Castro RE., Gonzalez JE. 2011. Identification of polyphyletic variants in acute hepatitis suggest an underdiagnosed circulation of hepatitis E virus in Argentina. *Clin. Virol.* 52(2):138-41
- Teshale E.H., Hu D. 2011. Hepatitis E: Epidemiology and Prevention. *World J. Hepatol.* 27;3(12):285-291
- Espul, M., Manzur, A., Espul, C., Cuello, H., Lo Castro, I., Altbert, N., Gonzalez J., Munne MS. 2013. Identificación y Caracterización del Virus de la Hepatitis E en Establecimientos de Producción Porcina en Mendoza. XVII Congreso Argentino de Hepatología. Buenos Aires
- Dos Santos, D.R., de Paula VS., de Oliveira JM., Marchevsky RS., Pinto MA. 2011. Hepatitis E virus in swine and effluent samples from slaughterhouses in Brazil. *Vet Microbiol.* 149(1-2) 236-41.

RESULTS



CONCLUSIONS

- The circulation of both viruses, in clinical and environmental samples was demonstrated.
- All patients were symptomatic and some of them required hospitalization due to their liver disease, revealing an underdiagnosis in these pathologies.
- Immunocompromised patients were followed in their evolution with new samples for eventual treatment with ribavirin.
- Through the environmental samples was estimated the circulation of these viruses in a large number of inhabitants
- Enact standards that include viral parameters in the sanitation requirements of aquifer matrices for human consumption are necessary.

Contact Information

Ivana G. Lo Castro iglocaastro@yahoo.com.ar
Laboratorio de Virología. Hospital Central de Mendoza. Argentina

CONFLICTS OF INTEREST

All authors declared that they do not have any conflicts of interest.