OP-3 HCV MICROELIMINATION PROGRAM IN HEMODIALYSIS PATIENTS: SUCCESS OF A MULTI-STAKEHOLDER PARTNERSHIP BASED ON A NATIONAL ERADICATION STRATEGY

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Introduction and Objectives: Direct-acting antivirals (DAAs) are highly effective in patients with chronic kidney disease in hemodialysis and chronic hepatitis C (HCV). The treatment of HCV in this population brings multiple benefits, including improved survival of the patient on dialysis and reduction of contagion in the dialysis room by achieving eradication. Our aim was to evaluate the effectiveness of DAA treatment in this population in routine clinical practice in Argentina using a multidisciplinary network of nephrologists and hepatologists, within the framework of the national micro-elimination strategy of the Viral Hepatitis Program of the Ministry of Health.

Materials and Methods: In this prospective multicenter cohort study, all patients on dialysis at Fresenius Argentina, were screened for anti-HCV. All HCV RNA- positive patients were offered treatment with Sofosbuvir/Velpatasvir (SOF/VEL) and Glecaprevir/Pibrentasvir (GP) according to national guidelines. FIB-4 and APRI scores, and liver stiffness (LSM) when available, were performed in all HCV RNA-positive patients before treatment. Those with F3-4 by LSM, FIB-4 >3.25 and/or APRI >1.5 were evaluated by a hepatologist. DAAs therapy was initiated in each dialysis unit under the supervision of hepatologists by telemedicine.

Results: A total of —10,144 patients from all hemodialysis units were evaluated between January 2018 and December 2022. A total of 323 (3.18%) were anti-HCV positive, of which 149/323 (46.13%) had detectable HCV RNA. Genotype 1 was the more prevalent (69%) and most patients had mild fibrosis (26% had F3-F4). By May 2023, 82 patients were evaluated 12 weeks after the end of treatment:76 achieved SVR (92,6%), 3 died, 1 stopped treatment due to intolerance, and 2 were lost to follow-up.

Conclusions: A multi-stakeholder partnership model as a national micro-elimination strategy increased the treatment rates for HCV in dialysis units with acceptable effectiveness in this special population. This microelimination model is on the way to the WHO elimination program for 2030.

https://doi.org/10.1016/j.aohep.2023.101276

OP-4 DEVELOPMENT AND EXTERNAL VALIDATION OF A MODEL TO PREDICT MULTI-DRUG RESISTANT BACTERIAL INFECTIONS IN PATIENTS WITH CIRRHOSIS

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Introduction and Objectives: Empirical antibiotic treatment for suspected infections in cirrhosis is crucial. This study aimed to

develop and validate a model to predict the probability of infections by multi-drug resistant organisms (MDRO) in patients with cirrhosis.

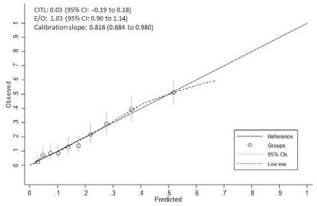
Materials and Methods: Cross-sectional study (NCT05641025) of in-patients with bacterial infections from two prospective studies. A global transcontinental study was used for model development and internal validation (n = 1,302), and a study from Argentina and Uruguay (n=472) was used for external validation. Infection by MDROs was defined as an infection caused by at least one bacteria with acquired resistance to at least one antibiotic of three different families. A stepwise selection process was used for model development and bootstrapping for internal validation.

Results: The prevalence of infection by MDROs was 19% in the development and 22% in the external validation dataset. Most frequent infections were spontaneous bacterial peritonitis (SBP) and urinary tract infection (UTI). Half of the infections were community-acquired, and half were equally distributed among healthcare-associated and nosocomial origin. The model predictors are shown in the figure. Very good calibration was achieved in internal and external validation (Figure). Discrimination was adequate: area under the receiver operating characteristic curve (AUROC) of 0.73 (95% CI: 0.69 - 0.76) in internal validation and 0.67 (95% CI: 0.62 - 0.74) in external validation. When applying a probability cut-off point of 5% to the external dataset, a negative predictive value (NPV) of 93% (95% CI: 84% - 98%) was observed.

Conclusions: This easy-to-implement model achieved adequate performance for predicting infections by MDROs in patients with cirrhosis, offering costless bedside individualized risk estimates that might improve the selection of empiric antibiotics. Its high NPV suggests that it could be used as a rule-out tool, particularly in patients at higher risk of infection by MDROs, reducing the use of broad- spectrum antibiotics.

Figure. Calibration of the model in internal validation and predictors included in the model.

Calibration of the model in Internal validation



Perfect calibration occurs when the straight line and the dotted line overlap. CITL: Calibration in the large, which is an average over all individuals (the closer to 0, the better the model calibrates). E/O: expected outcomes by the model over observed outcomes (the closer to 1, the better the model calibrates). Calibration slope is the *beta* of the model (the closer to 1, the better the model calibrates)

Predictors included in the model

Predictor	OR (95% CI)
Sex	1.29 (0.92 - 1.83)
Prior antibiotic treatment	1.79 (1.30 - 2.47)
SBP	0.36 (0.22 - 0.59)
UTI	3.31 (2.19 - 5.02)
Nosocomial infection	2.46 (1.65 - 3.65)
HCA infection	1.81 (1.20 - 2.74)
ACLF at infection	0.54 (0.36 - 0.80)
ICU at infection	2.02 (1.29 - 3.14)
MELD-Na at infection	1.02 (0.99 - 1.04)
Interaction terms	
CA infection * prior isolation of MDRO	4.19 (1.31 - 13.40)
ICU admission * pneumonia	1.80 (1.02 - 3.17)
ICU admission * UTI	0.35 (0.15 - 1.01)
CA infection * penumonia	0.39 (0.15 - 1.01)

OR: odds ratio. CI: confidence interval. MDRO: multidrug-resistant organism. SBP: spontaneous bacterial peritonitis. UTI: urinary tract infection. HCA: health-care associated-infection ACLF: acute-on-chronic liver failure. UCI: intensive care unit. CA: community-aquired, MDRO: multi-drug resistant organism.

https://doi.org/10.1016/j.aohep.2023.101277