HCV RESISTANCE-ASSOCIATED VARIANTS AMONG HCV TREATMENT NAÏVE HIV-COINFECTED PATIENTS IN UKRAINE

A PILOT STUDY

Marta Vasylyev, MD

Lviv Regional Public Health Center, Ukraine

CONFLICT OF INTEREST

- None

INTRODUCTION

- Baseline HCV resistance-associated variants (RAVs) can impact the efficacy of some hepatitis C directly acting antiviral (DAA) regimens in some HCV genotypes
- There is a lack of data about the prevalence of HCV RAVs in untreated subjects in Ukraine
- Sofosbuvir/ledipasvir and paritaprevir/ombitasvir/ dasabuvir are available in Ukraine for limited number of patients

AIM

To evaluate the presence of HCV RAVs in the NS3 and NS5A regions among HCV treatment naïve HIV-coinfected patients in Ukraine

METHODS

- The presence of HCV RAVs in the NS3 and NS5A regions was made by population sequencing in the laboratory of the Pomeranian Medical University in Poland

- Sequences were assembled using Recall tool with the resistance interpretation performed following the Geno2Pheno HCV Web-based Interpretation System

- For G1B both NS3 and NS5A were sequenced, while for G3A only NS5A region was analyzed

BASELINE CHARACTERISTICS

HCV Genotype	Number of patients	Males	Females	Mean age/ Years	Median HCV viral load /u/L	Median CD4 count/cells/mm
G1B	16	11	5	41	3100000	350
G3A	6	4	2	39,5	2400000	270
Total	22	16	7	40	2500000	300

RESULTS

NS3 region sequencing was successful in 12 G1B infected cases

NS5A sequences were obtained for 14 G1B and 6 G3A samples

RESULTS

NS3 RAVs were identified in 5/12 (41,66%) for G1B cases, all being 56F substitution associated with reduced grazoprevir susceptibility

NS5A RAVs were observed in one (7.14%) G1B case, with presence of three mutations (28M, 31I, 93H) notably affecting susceptibility to all NS5A inhibitors including ledipasvir, except for pibrentasvir

RESULTS

In two (33%) G3A infected cases 30K variant, associated with reduced susceptibility/resistance to all NS5A registered drugs, was noted

In total RAVs associated with resistance to the ledipasvir were identified in 3/20 (15%) of cases

CONCLUSION

Transmitted HCV primary resistance associated variants are not uncommon in HIV-coinfected subjects in Ukraine.

They may negatively impact treatment results with SOF/LED

In the path to the total HCV elimination in Ukraine use of DAA pangenotypic agents with expanded activity against HCV mutants, and with higher barrier to resistance are needed

NEXT STEPS

- To increase number of patients
- To analyze treatment outcomes of the study group

ACKNOWLEDGEMENTS

- Prof. Milosz Parczewski
- Dr.Josep M Llibre
- Dr. Tetiana Koval
- Colleagues from Lviv Regional Public Health Center
- Participants in the study

THANK YOU!