P-022

Prevalence of the potential drug-drug interactions between pangenotypic direct-acting antivirals and the concomitant medication with patients with chronic hepatitis C virus infection

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INTRODUCTION: The development of new pangenotypic direct-acting antivirals (pDAA) against hepatitis C virus (HCV) is revolutionizing the treatment of chronic hepatitis C (CHC). The availability of pDAA provides the opportunity to maximize Sustained Virologic Response and minimize side effects and drug-drug interactions. Given the large number of potential concomitant medications and limited pharmacokinetic data, DDIs have become a challenge in the era of DAA, particularly for patients with multiple comorbidities who use concomitant medications. OBJECTIVE: To determine the comorbidity and potential drug-drug interactions (DDIs) among DAAs associated with HCV patients in the usual clinical practice.

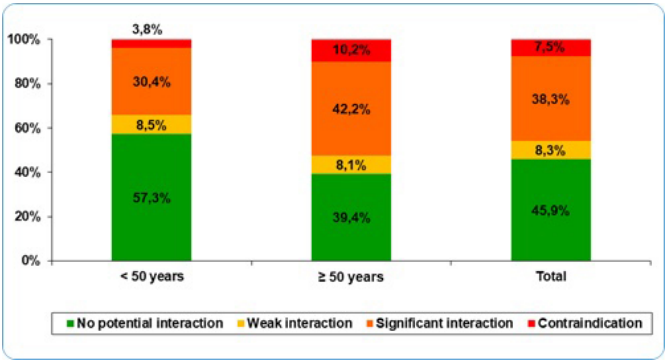
METHODS: This is a retrospective observational study, designed from the medical records review (computerized database). The study population was obtained from health records of healthcare provider organizations from various centers in Spain (BIG-PAC dissociated database). Patients were ≥18 years diagnosed with HCV, who required medical attention during 2018. Two groups were differentiated according to age ranges (< 50 years and ≥ 50 years). The variables collected were demographic (age, gender); general and specific comorbidity; and pharmacological (DDIs). DAAs analyzed: a) Sofosbuvir (SOF), b) Ledipasvir/Sofosbuvir (LDV/SOF), c) Glecaprevir /Pibrentasvir (GLE/PIB), d) Sofosbuvir/Velpatasvir/Voxilaprevir (SOF/VEL/VOX) and e) Paritaprevir/Ritonavir/Ombitasvir/Dasabuvir (PrOD). The concomitant medication administered during follow-up, Table 1. To determine the DDIs effect, the recommendations of the University of Liverpool (AASLD). Statistical-analysis: descriptive/bivariate, p-value<0.05.

RESULTS: Summary of results obtained 3,430 patients were recruited, the average age was 56.9 years and 60.3% were males. The distribution by age ranges was: <50 years (28.9%) and ≥50 years (71.1%). The average of drugs was: 3.1 per patient/year, Table 1. Most used medication: alimentary tract and metabolism (37.5%), cardiovascular system (35.7%) and nervous system (34.1%). By subgroups of drugs was the following: drugs for acid related disorders (23.1%), agents acting on the renin–angiotensin system (21.8%) and psycholeptics (21.7%). The total percentage of potential pharmacological interactions was: 8.3% weak; 38.3% clinically significant; 7.5% contraindicated medication. These interactions were greater in patients ≥50 years (8.1%, 42.2% and 10.2%, respectively, p <0.001). For all ages, SOF compared to SOF/LDV, GLE/PIB, SOF/VEL/VOX and PrOD showed a lower percentage of contraindications (1.1% vs. 3.1%, 6.5%, 8.5% and 11,4%, p<0.001).

CONCLUSION: The subjects with HCV are associated with a high comorbidity and consumption of concomitant medication, especially in older patients (≥50 yrs), a circumstance that results in greater exposure to potential DDI. The use of SOF and LDV/SOF can produce a lower proportion of contraindications (DDIs).

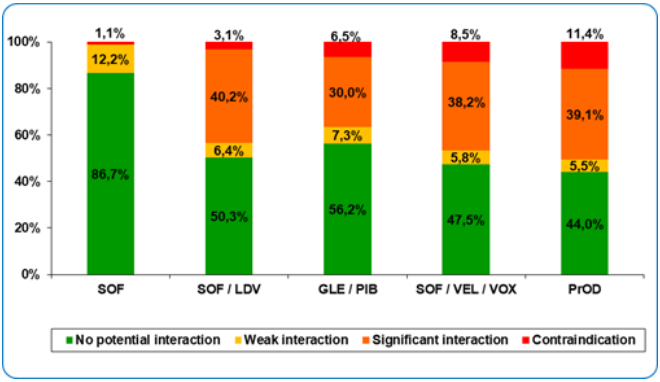
Keywords: Chronic hepatitis C, direct acting antivirals, concomitant medications, drug drug interactions

Figure 1. Distribution of potential drug-drug interactions according to age groups



Values expressed in percentage or average (SD: standard deviation). p: statistically significant. ATC: Anatomical Therapeutic Chemical Classification System.

Figure 2. Distribution of potential drug-drug interactions according to pangenotypic direct-acting antivirals



SOF: Sofosbuvir. SOF/LDV: Sofosbuvir/Ledipasvir. GLE/PIB: Glecaprevir/Pibrentasvir. SOF/VEL/VOX: Sofosbuvir / Velpatasvir/Voxilaprevir, PrOD: Paritaprevir/Ritonavir/Ombitasvir/Dasabuvir.

Table 1. Concomitant medication administered during follow-up

Study groups	< 50 years	≥ 50 years	Total	p
Number of patients, %	N=991 (28.9%)	N=2,439 (71.1%)	N=3,430 (100%)	
Average medication (SD)	2.0 (2.2)	3.5 (2.7)	3.1 (2.6)	<0.001
0	22.7%	18.3%	19.6%	
1	18.4%	13.0%	13.8%	
2	16.4%	12.2%	13.8%	
3	15.3%	13.1%	14.7%	
4	10.3%	7.6%	8.1%	
5	16.9%	35.8%	30.0%	<0.001

Values expressed in percentage or average (SD: standard deviation). p: statistical significance.

Table 2. Study subgroups analysed during the follow-up period

Study Groups		<50 years	≥ 50 years	Total	
ATC	Number of patients, %	N=991 (28.9%)	N=2,439 (71.1%)	N=3,430 (100%)	p
A02	Drugs for acid related disorders	18.1%	25.4%	23.1%	<0.001
A10	Drugs used in diabetes	3.1%	13.4%	10.4%	<0.001
B01	Antithrombotic agents	5.9%	17.7%	14.3%	<0.001
B03	Antianemic preparations	8.7%	13.2%	11.9%	<0.001
C03	Diuretics	10.0%	13.2%	12.6%	0.024
C07	Beta blocking agents	8.7%	11.6%	11.0%	<0.001
C09	Agents acting on the renin-angiotensin system	6.7%	28.0%	21.8%	<0.001
C10	Lipid modifying agents	4.2%	17.1%	13.4%	<0.001
D01	Antifungals for dermatological use	4.0%	6.2%	5.5%	<0.001
D07	Corticosteroids. dermatological preparations	3.5%	6.7%	5.8%	<0.001
J01	antibacterial for systemic use	2.1%	4.7%	4.0%	0.010
M01	Anti-inflammatory and antirheumatic products	14.2%	19.1%	18.2%	0.678
N02	Analgesics	8.2%	15.3%	12.5%	<0.001
N03	Antiepileptics-anxyolitics	17.3%	13.2%	14.4%	0.002
N05	Psychoanaleptics	22.0%	21.5%	21.7%	0.811
N06	Psychoanaleptics	18.7%	20.2%	19.8%	0.356
R03	Drugs for obstructive airway diseases	11.4%	16.9%	15.3%	<0.001
R06	Antihistamines for systemis use	8.2%	13.2%	12.2%	0.098
S01	Ophthalmologicals	3.0%	9.0%	7.8%	<0.001

Values expressed in percentage or average (SD: standard deviation). p: statistically significant. ATC: Anatomical Therapeutic Chemical Classification System