MASH

#P28 - PNPLA3 rs738409 polymorphisms clinical profile in a MAFLD Mexican cohort

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Background & Aims

MAFLD Genetic knowledge advances allows identify individuals at risk or estimate severe histological risk and outcomes, including MASH and MASH-fibrosis. PNPLA3 rs738409 is the most studied genetic marker, however there are not studies that evaluate the allele epidemiologic behavior and clinical association in Mexicans. The aim of this study is to identify PNPLA3 rs738409 polymorphisms and clinical profile in a Mexican MAFLD Cohort

Methods

Ninety five MAFLD adult volunteers participated. Self-reported data included demographic,medical history and physical evaluation. Liver and lipid profile, platelets, Glucose, and PNPLA3 rs738409 genotyping using commercially available testing provided by LabCorp. MAFLD diagnosis was done using FibroScan® (Echosens, Paris, France) . Patients were stratified into risk groups according to published cut-offs (low risk <0.35, high risk >0.67) and evaluated using clinical and genetic profile.

Results

68.4% were females, mean of 52±12 years. The PNPLA3 rs738409 homozygous GG polymorphism was the most prevalent in 43.2%, following the CG polymorphism 41.1% and CC polymorphism 15.8%. PNPLA3 rs738409 homozygous GG polymorphism showed AST mean 34.76±18.49 U/L, ALT 46.78±32.15 and FAST-Score 0.39±0.47 higher than the other polymorphism and a intermediate risk FAST (57.1%) and high risk FAST (66.7%) compared to CG polymorphism (38.1% and 33.3%) and CC polymorphism (4.8%) and no high risk FAST.

Conclusions

PNPLA3 rs738409 GG homozygous was the higher prevalence polymorphism,showing higher levels of liver enzymes and FAST Score and Intermediate or High Risk of MASH-Fibrosis according to the FAST risk stratification, the early identification of the patient with this genotype could help to early diagnosis of MAFLD or MASH.

Table 1. PNPLA3 rs738409 polymorphisms and clinica
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Table 1. PNPLA3 rs738409 polymorphisms and clinical profiles in subjects with MAFLD, Mexico City, 2024.

	PNPLA3 rs738409 polymorphisms					
	CC 15.8%(15)		CG 39.0%(41.1%)		GG 41(43.2%)	
Variable	Mean	SD	Mean	SD	Mean	SD
Age	49	13	55	11	50	11
Gender(n/%)						
Female	7	46.7%	26	66.7	32	78.0
Male	8	53.3%	13	33.3	9	22.0
Family History of MAFLD/MASH(n/%)						
No	9	60.0	26	66.7	28	63.4
Yes	6	40.0	13	33.3	15	36.6
IMC(Kg/m2)	32.99	6.74	34.25	6.77	33.43	6.73
Waist Circumference (cm)	110.13	17.63	109.41	15.05	107.4	15.74
CAP(dB/m)	320.60	27.96	336.79	38.70	316.95	31.45
Transient Elastography(kPa)	5.65	1.48	6.40	1.70	6.54	1.98
Platelets (10^3/µl)	314.07	84.92	262.97	69.76	269.02	68.16
AST (U/L)	22.34	8.11	30.87	18.02	34.76	18.49
ALT (U/L)	28.53	15.77	41.17	33.66	46.78	32.15
Triglycerides(mg/dl)	164.35	62.85	184.17	120.08	156.01	70.3
Total Cholesterol(mg/dl)	195.88	52.87	180.27	44.76	178.55	44.07
C-HDL(mg/dl)	47.32	12.10	45.35	11.35	46.07	10.32
Glucose(mg/dl)	117.98	63.79	107.70	40.50	93.10	10.14
HbA1c(%)	6.49	1.61	6.32	1.47	6.11	0.82
FIB-4 Score	0.72	0.24	1.13	0.57	0.97	0.52
FIB-4 MASH-Fibrosis Risk Stratification (n/%)						
Low Risk	14	17.5	33	41.3	33	41.3
Intermediate Risk	0	0	4	36.4	7	63.6
High Risk	0	0	3	66.7	1	33.3
FAST MASH-Fibrosis Risk Stratification (n/%)						
Low Risk	14	20.6	29	42.6	25	36.8
Intermediate Risk	1	4.8	8	38.1	12	57.1
High Risk	0	0	2	33.3	4	66.7