Male gender, genotype 3, previous alcohol use, increased BMI, and diabetes are factors independently correlated to advanced HCV chronic liver disease in Italy: data from PITER (Piattaforma Italiana per lo studio della Terapia delle Epatiti viRali) cohort study

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INTRODUCTION

Italy has one of the highest prevalence rates of HCV infection in Europe, and a peculiar epidemio-logic situation. In Italy, HCV infection is the leading cause of cirrhosis, HCC,and liver-related death . In order to evaluate factors associated with the severity of liver disease in Italian patients in care, data derived from the PITER HCV cohort study were analysed. PITER is a structured network that benefits from an integrated collaboration involving Italy'sNational Institute of Public Health (Istituto Superiore di Sanità),the Italian Society for the Study of the Liver (AISF), the Italian Society for Infectious Diseases (SIMIT) and their affiliated clinical centres. The main goal of PITER is to evaluate the expected impact of DAAs on the natural course of infection and on long-term morbidity and mortality in a real-life setting.

AIM

To evaluate the peculiarities, if any, of chronic liver disease in Italy, baseline and prospectively

To evaluate factors correlating with liver disease severity in a sample which is representative of patients in care in Italy

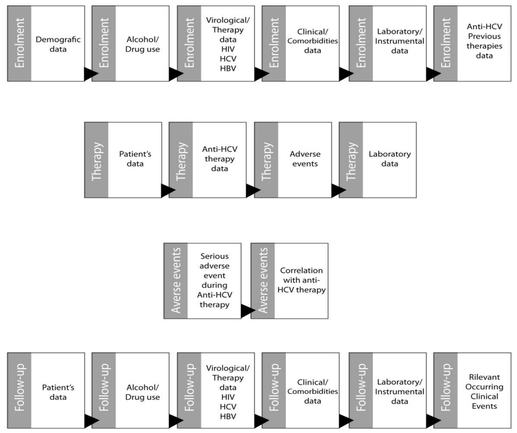
MATERIAL & METHODS

To date 7600 patients in care in more than 80 Italian Clinical Centers are enrolled in the the PITER HCV cohort study. The informatic platform contains detailed clinical and therapeutical informations of these patients. The enrolled patients will be followed for 5 to 10 years, independently if they will be undergone an anti-HCV antiviral therapy

Analysing baseline data of enrolled patients in the Informatic Platform so far the relationship between severe fibrosis stage/cirrhosis and sociodemographic characteristics, HCV RNA genotype, alcohol, body mass index (BMI), ALT, AST, GGT, platelets, diabetes, cardiovascular, neurological/psychiatric, autoimmune/reumatological and neoplastic diseases were evaluated by univariate and logistic regression statistical models. The regression model's goodness of fit (calibration and sensitivity) was also estimated.

RESULTS

Framework of data collection in the different eCRFs



This analysis included 6831 patients enrolled as by June 2015
The mean age of the enrolled patients is 59±19 years;
3797 males) on clinical care. HCV genotype 1b (58%) and genotype 2 (15%) are significantly prevalent in older ages
(older than 59 years) compared to genotypes 3 (10%) and 4 (7%), which are prevalent in younger ages. F4/cirrhosis
stage was present in 2579 (38%) patients. It increased by age as expected, although 32% of patients younger than 60
years (3371 patients) had F4/cirrhosis. Of the enrolled patients, 48% were treatment-experienced. The independent
role of each factor related with F4/cirrhosis, as defined by the logistic regression analysis, is as follows: male vs
female OR:1.42 (95% CI:1.25-1.66); BMI≥25 vs BMI<25 OR:1.4 (95% CI:1.2-1.6); BMI≥30 vs BMI<25 OR:2 (95% CI:1.6-2.6); genotype 1 vs 2 OR:1.4 (95% CI:1.1-1.7); genotype 3 vs 2
OR:1.9 (95% CI:1.2-2.1); diabetes vs non diabetes (913/5918) OR:1.7 (95% CI:1.4-2.1); previous alcohol use vs no use (1435/4311) OR:1.6 (95% CI:1.3-2). Current alcohol use vs no use OR:0.6 (95% CI:0.5- 0.8) was not associated with F4/cirrhosis; the majority of current abuser had F0-F2 fibrosis stage. Increased GGT, increased AST, decreased ALT and decreased PLT were also independently related with F4/cirrhosis. Diabetes was
significantly associated with cirrhosis in both age groups older and younger than 50 years. Other comorbidities accounted for 3%-18% of enrolled patients without significant differences by age groups and fibrosis stage.

Variables	N 6831	Univariate	CI 95%	Adjusted OR	CI 95%
Mean Age	59+-13	1.03	1.025-1.034	1	1-1
Gender F vs M	3034/3797	0.6	0.5-0.7	**0.7**	**0.6-0.8**
Previous Alcohol use yes/No use	1435/4311	1.9	1.7-2.2	**1.6**	**1.3-2**
Actual Alcohol use/no use	1083/4311	0.7	0.6-0.8	**0.6**	**0.5-0.8**
BMI >= 25 vs BMI<25	2606/3470	1.4	1.2-1.5	**1.4**	**1.2-1.6**
BM I>= 30 vs BMI<25	726/3470	1.8	1.5-2.1	**2**	**1.6-2.6**
HCV Genotype 1 vs 2	3996/1013	1.7	1.4-2.0	**1.4**	**1.1-1.7**
3 vs 2	655/1013	2	1.6-2.4	**1.5**	**1.2-2.1**
4 vs 2	446/1013	1.4	1.1-1.8	1.2	0.7-1.6
Diabetes vs Non Diabetes	913/5918	2.9	2.5-3.3	**1.7**	**1.4-2.1**
2 times Increased Gamma GT vs NR*	1197/2313	3	2.6-3.5	**2**	**1.6-2.5**
>2 times Increased Gamma GT vs NR	965/2313	4.4	3.7-5.1	**2.5**	**2-3.1**
2 times Increased ALT vs NR	2126/2604	2	1.8-2.3	**0.9**	**0.7-1.1**
>2 times Increased ALT vs NR	1748/2604	3.3	2.9-3.8	**0.7**	**0.5-0.9**
2 times Increased AST vs NR	2167/2636	3	2.6-3.4	**1.9**	**1.5-2.4**
>2 times Increased AST vs NR	1647/2636	7.3	6.4-8.4	**4.2**	**3.1-5.6**
PLT: 50 000-100 000 vs >150 000	1250/3764	6.5	5.7-7.5	**23.5**	**18.8-29.4**
PLT: 100 000 - 150 000 vs>150 000	1440/3764	34.4	28.5-41.6	**4.8**	**4.1-5.6**

This analysis included 6831 patients enrolled as by June 2015
*NR= Normal range. For the logistic regression model:
data from 6000 observations are included,
ROC =0.9; Chi-square Hosmer Lemeshow 8.7; DF=8; p=0.3.

CONCLUSION

Male gender, genotype 3, increased BMI, previous alcohol use and diabetes are factors independently associated with advanced liver disease in this large cohort of Italian patients. Diabetes is an independent factor significantly associated with cirrhosis also in patients younger than 50 years of age. PITER cohort study,through its prospective design, will provide a continuous update of the epidemiology of HCV chronic liver disease considering patients in care that will be continuously enrolled certain periods each year and patients that will be treated with antiviral therapies overtime

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2)Piter Collaborating Group available on www.iss.it/piter

DISCLOSURES

Nothing to disclose

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