

## Summit abstracts

### 1 **IL-10 HAPLOTYPES AND TNF- $\alpha$ LEVELS ARE ASSOCIATED WITH LOW MUSCLE MASS IN PATIENTS WITH CHRONIC HEPATITIS C**

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**Background** Despite the negative impact of low muscle mass (MM) on the survival of cirrhotic patients, the mechanisms linked to MM loss are not completely understood in patients with chronic hepatitis C (CHC).

**Objectives** To evaluate whether the *IL-10* haplotype (-1082G>A, -819C>T, and -592C>A) and serum levels of tumour necrosis factor-alpha (TNF- $\alpha$ ) were associated with low MM in CHC patients.

**Methods** 94 consecutive CHC outpatients (mean age, 50.3  $\pm$  11.5 yrs.; 74.5% males; 68.1% without cirrhosis and 31.9% with compensated cirrhosis) and 164 healthy controls were prospectively enrolled. SNPs were genotyped by RT-PCR. Serum levels of TNF- $\alpha$  were measured by ELISA. CHC patients, prospectively, underwent scanning of the lean tissue, appendicular skeletal muscle mass (ASM), and fat mass by dual-energy X-ray absorptiometry. The data analysed included appendicular skeletal mass (ASM) standardized for height (ASMI=ASM/height<sup>2</sup>). The cut-off points for low ASMI were 5.45 kg/m<sup>2</sup> and 7.26 kg/m<sup>2</sup> for women and men, respectively, according to Baumgartner *et al.* (1998). The International Physical Activity Questionnaire was used to determine the physical activity level.

**Results** *IL-10* SNPs were in Hardy Weinberg equilibrium. Patients and healthy subjects showed the same distribution of genotypes. Low ASMI was found in 12/94 (12.8%) of the

patients with CHC. The *IL-10* haplotype ATA (low-producer genotype) was observed in 11/12 (91.7%) of the patients with low ASMI ( $P=0.03$ ) and in only one of the patients without low ASMI 1/82 (1.2%) (Figure 1). In the multivariate analysis, low ASMI was significantly and independently associated with moderate-to-high physical activity (OR=0.31; 95%CI=0.09-0.98;  $P=0.05$ ), TNF- $\alpha$  levels (OR=1.06; 95%CI=1.01-1.11;  $P=0.02$ ) and ATA haplotype (OR=9.87; 95%CI=1.13-94.85;  $P=0.05$ ).

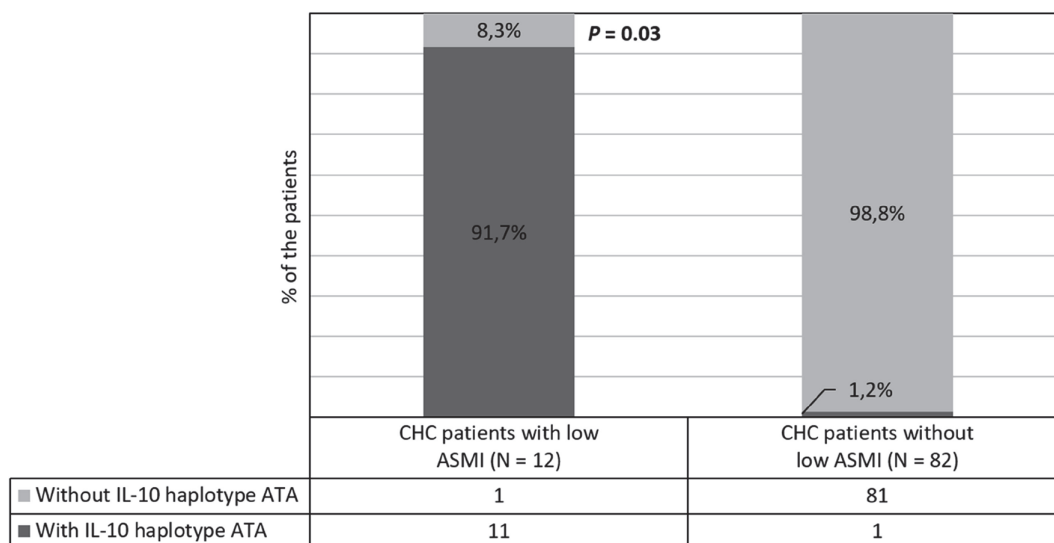
**Conclusion** This is the first study to demonstrate that the *IL10* haplotype is associated with low ASMI in CHC patients. We also demonstrated that TNF- $\alpha$  is associated with low ASMI in CHC patients.

### 2 **LOW PHASE ANGLE IS ASSOCIATED WITH CIRRHOSIS AND LOW MUSCLE MASS IN CHRONIC HEPATITIS C PATIENTS**

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**Background** Although the use of electrical bioimpedance (BIA) is impaired when patients with hepatic cirrhosis have ascites, oedema and electrolyte disturbances, the measurement of phase angle (PhA) in this population has been shown to be superior to anthropometric and biochemical methods for early detection of malnutrition. The PhA reflects the cellular integrity and normal values (according to sex and age) indicate preserved cellular activity. In patients with chronic hepatitis C (CHC), the role played by PhA has not been completely clarified.



**Abstract 1 Figure 1** Association between the prevalence of the *IL-10* haplotype ATA and the low appendicular skeletal mass standardized for height (ASMI) in patients with chronic hepatitis C (CHC)