



## POSTER

### INCIDENCE OF NON-ALCOHOLIC FATTY LIVER DISEASE IN NON-OBESE AND NON-DIABETIC INDIVIDUALS DURING NORMAL AGING

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Non-alcoholic fatty liver disease (NAFLD) is the most common cause of chronic liver disease worldwide. It is considered a direct consequence of the rising global epidemic of obesity and the associated increase in the prevalence of diabetes. However, the incidence in non-obese and non-diabetic population is also worrying. Nowadays, 30% of the general population is thought to be affected by NAFLD, with even higher rates in aged people. Recently, we have described a BMI-dependent lipidomic signature associated to NAFLD. Based on this study with 467 biopsied patients, we obtained a set of serum lipid biomarkers that discriminates between normal liver and NAFLD, with areas under the receiving operating characteristic curve (AUCROC) of 0.98 (sensitivity = 1.00; specificity = 0.91) for the cohort under 30 kg/m<sup>2</sup>. Here, we used this diagnostic test (OWLiverCare) to determine the incidence of NAFLD in non-obese and non-diabetic individuals during normal aging.

**Methods:** The study enrolled 262 healthy non-obese volunteers. Inclusion criteria involved normal blood pressure, normal urine and serum biochemistry, moderate alcohol intake (lower than 30 g/day), body mass index under 30 kg/m<sup>2</sup> and excluded medicated individuals for diabetes, hypertension or hyperlipidemia. Chloroform/methanol serum extracts were analyzed by liquid chromatography coupled to mass spectrometry. Then, the volunteers were diagnosed as normal liver or NAFLD using the OWLiverCare diagnostic test.

**Results:** Twenty one percent of volunteers between 20-30 years of age were diagnosed with NAFLD. These percentages remained similar in the following decade. However, the percentage of individuals with NAFLD doubled (40%) between 40-50 years of age. This raise in NAFLD was mainly due to an increased incidence of steatosis in men. Between 50-60 years of age the total prevalence of NAFLD increased to 50% and the differences between women and men leveled off.

**Conclusion:** The prevalence of NAFLD in 262 non-diabetic individuals with BMI under 30 kg/m<sup>2</sup>, normal blood pressure and biochemistry was evaluated using the OWLiverCare diagnostic test, based on a serum lipidomic profiling. The incidence increases from 21% to 50% during aging (20-60 years of age). The increment started between 40-50 years of age in men, whereas it started a decade later in woman.