Effects of dulaglutide treatment on weight and liver stiffness measured by Fibroscan® in NASH patients.

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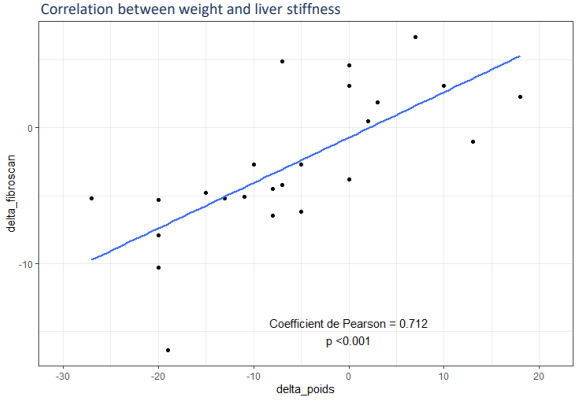
Introduction - aims of the study

Weight loss is correlated with an improvement in necroinflammatory lesions and fibrosis during NASH (non-alcoholic steatohepatitis). GLP1 analogues are a treatment for type 2 diabetes and lead to constant weight loss. The aim of this observational study is to measure the effect of dulaglutide treatment on weight and liver elastometry measured by Fibroscan® in patients with NASH..

Methods

The 27 patients included were patients who had been followed for NASH for at least 3 months on diet alone. NASH was histologically proven twice; alcohol consumption was less than 10 g/24 in all patients.

Other causes of liver damage (viral hepatitis B, C, autoimmune disease and haemochromatosis) were eliminated by appropriate tests. The average ALT activity was 50 IU/L (standard deviation = 26.3) and the average GGT activity was 83.1 IU/L (standard deviation = 87.4). The statistics are presented in mean and standard deviation. Differences between treatment initiation and data measurement are tested by Student's test on matched data. Correlations are estimated by Pearson's correlation coefficient. The alpha threshold is 5%. The data were collected with an Excel database and the analyses were performed with R software.



Results

Twenty-seven patients, mean age 57 years (min = 30; max = 79) with NASH were treated **with dulaglutide at a dose of 1.5 mg subcutaneously per week**. Nine (36%) patients had NASH associated with type 2 diabetes and 8 (32%) were also on metformin.

Eighteen (72%) patients were obese (mean BMI = 33.6 kg/m²; standard deviation = 5.6) of which 4 were morbidly obese. Six patients had treated hypertension.

The mean elastometry score was 11.4 kPa (Standard deviation = 3.64); Six had cirrhosis (F4) and 8 were F3.

The evaluation of the evolution of the results was done on average 7.5 months after the beginning of the treatment.

The weight decreased on average by 7.7kg (Standard deviation 13.68, p<0.000) and the BMI by 2.9 kg/m² (Standard deviation = 4.8, p<0.000). The activity of ALT decreased by 22.2 IU/L (Standard deviation = 40.4, p= 0.004) and that of AST decreased by 16.4 (Standard deviation = 25.11, p = 0.003).

The elastometry score decreased by -2.7 kPa (Standard deviation = 5.36, p = 0.016) with a regression of fibrosis > F3 to F1 in 8 patients.

We found a strong significant correlation between weight loss and reduction of the elastometry score (Coefficient = 0.71; p<0.0001).

Treatment tolerance was good to excellent in 98% of patients.

In conclusion, in this population of overweight or obese patients treated with dulaglutide at a dosage of 1.5 mg per week, we observed a **significant decrease in weight, BMI, ALT, AST and elastometry score. This decrease in elastometry score was highly correlated with weight loss.**