

efficient blockade of the MC2R and the highest shift of EC<sub>50</sub> of ACTH (33.8 nM ± 0.08 vs. 7.3 nM ± 0.09). LNP009 was additionally tested for specificity concerning the other known melanocortin receptors and showed no antagonistic effect up to 1 μM on MC3, MC4 or MC5 receptor transiently transfected HEK 293 cells. To further investigate the inhibitory effect of our most potent antagonist peptide LNP009 on the steroid hormone response, we assessed steroidogenic enzyme expression of the human adrenocortical tumor cell line NCI-H295RA and performed mass spectrometry analyzes of steroids in the cell culture supernatant. Pre-incubation with LNP009 reduced the expression of the genes CYP21A2, CYP11B1 and HSD3B2 in NCI-H295RA cells and significantly reduced the synthesis of aldosterone (P=0.046; n=3), cortisol (P=0.020; n=3) and corticosterone (P=0.035; n=3).

With the successful blocking of the ACTH binding and signal transduction by our antagonistic peptides, we anticipate an alternative approach for optimizing the treatment of CAH patients lacking the side effects of the currently used ACTH-suppressing corticoid therapy.

## Adipose Tissue, Appetite, and Obesity OBESITY TREATMENT: GUT HORMONES, DRUG THERAPY, BARIATRIC SURGERY AND DIET

### *The Impact of Bariatric Surgery on the Risk of Non-Alcoholic Fatty Liver Disease in Morbidly Obese Patients*

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### MON-592

**Introduction:** Non-alcoholic fatty liver disease (NAFLD) is strongly associated with obesity, and the prevalence of both diseases is increasing notably. The lack of effective treatment options for NAFLD is leading to a great consideration towards the identification of new approaches.

**Aim:** We aimed to evaluate the change one year after bariatric surgery of parameters of hepatic function and in the hepatic scores, *Fatty Liver Index* (FLI, predictor of hepatic steatosis), and BARD, *BMI, AST/ALT ratio and DM*, (predictor of hepatic fibrosis).

**Methods:** Observational retrospective cohort study in morbidly obese patients that underwent bariatric surgery between January 2010 and July 2018. We excluded patients missing hepatic function parameters before or one year after the surgical procedure. We used two linear regression models: 1) unadjusted; 2) adjusted for surgery type (gastric

sleeve, gastric band and gastric bypass), sex, age, body mass index, diabetes and dyslipidaemia.

**Results:** The included population (n=1955) had an average age of 43.1±10 years and 85.8% were female. We observed a relevant decrease in transaminases (pre-operative AST and ALT, 24.8±12.4 and 29.5±19.5U/L, vs 22.4 ± 11.1 and 22.2±14.7 post-operatively, respectively, p<0.01) and gamma-glutamyltransferase (36.9±35.4 vs 21.4±22.0U/L, p<0.01), and an increase in alkaline phosphatase (77.8±23.5 vs 80.8±25.4U/L, p<0.01) and total bilirubin (0.56±0.23 vs 0.68±0.24mg/dL, p<0.01). Both FLI and BARD markedly decrease one year after surgery (p<0.01). Comparing the surgical procedures, gastric sleeve was associated with a greater reduction of hepatic enzymes and of both FLI and BARD comparing with gastric band. Comparing with gastric bypass, sleeve was associated with a greater reduction of transaminases and alkaline phosphatase, but a smaller reduction of FLI and BARD.

**Conclusion:** Bariatric surgery is associated with a reduction of the hepatic enzymes and an improvement of FLI and BARD. Bariatric surgery may represent an effective therapeutic approach to NAFLD.

## Bone and Mineral Metabolism PARATHYROID HORMONE TRANSLATIONAL AND CLINICAL ASPECTS

### *Baseline Characteristics from the Observational PARADIGM Registry of Patients with Chronic Hypoparathyroidism*

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### SAT-399

PARADIGM is an actively recruiting, prospective, observational registry (NCT01922440/EUPAS16927). The primary objective is to evaluate the safety and effectiveness of recombinant human parathyroid hormone, rhPTH(1-84), treatment in patients with chronic hypoparathyroidism