

MON-592: The Impact of Bariatric Surgery on the Risk of Non-Alcoholic Fatty Liver Disease in Morbidly Obese Patients

Marta Borges-Canha. *Centro Hospitalar e Universitário de São João*

Marta Borges-Canha, MD¹, João Sérgio Neves, MD¹, Fernando Mendonça, MD¹, Maria Manuel Silva, MD¹, Cláudia Costa, MD², Pedro M. Cabral, MD¹, Vanessa Guerreiro Gonçalves, MD¹, Rita Lourenço, MD³, Meira Patrícia, MD³, Cristina Daniela Salazar, MD¹, Ferreira João Silva Maria, MD¹, Jorge Pires Pedro, MD¹, Sandra Belo, MD¹, Eva Lau, MD¹, Ana Sande, MD¹, Sara Viana, MD⁴, Paula Freitas, PhD¹, Davide M. Carvalho, MD, PhD¹, AMTCO group, MD¹.

¹Centro Hospitalar e Universitário de São João, Porto, Portugal, ²Instituto Português de Oncologia do Porto, Porto, Portugal, ³Faculdade de Nutrição da Universidade do Porto, Porto, Portugal, ⁴Unidade Local de Saúde do Norte Alentejano, Portalegre, Portugal.

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.