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Genomics of the obese patient before and after bariatric surgery

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Obesity is today a worldwide clinical and public health burden. It is associated with an increased risk of type 2 diabetes, cardiovascular disease, cancer, metabolic syndrome, nonalcoholic steatohepatitis, and mortality. The identification of multiple genetic defects responsible for monogenic syndromic and non-syndromic, oligogenic and polygenic forms of obesity over the last 20 years confirm an inherited component. A partial genetic overlap has been demonstrated between BMI variation in general populations and extreme forms of obesity. However, little is known on the genetic determinants of BMI variation among obese people. For this study, clinical data were extracted from the CHRU Lorraine's patient database. Blood was collected during the surgery for DNA extraction. The genotyping was performed using 240k SNPs Illumina BeadChip. Quality control was performed using GenomeStudio 2.0, Plink considering a callrate ? 99%, and callFreq ?95%. The results show that 169(48%) of patients are carriers of at least 1 of these mutations predisposing to obesity, and 182 are non-carriers, which explains that carriers for these mutations present 1.3 unit of BMI more than in the general population before the surgery. The variants do not have effect on weight loss in response to the modifications due to lifestyle and the surgery after 2, 7, and 12 months. In summary, the results suggest that rare and low frequency genetic variants associated with BMI in a general population have six times more effect on BMI in the morbidly obese cohort. and different genetic variants control the response to obesity lifestyle modification and surgery.

Biography

She currently pursuing a PhD degree at Lorraine University Faculty of Medicine, Nancy, France. I'm a second year PhD student. She currently writing 2 papers based on my PhD project: Genomics of the obese patient before and after bariatric surgery. In the past, during my masters she worked in Cardiovascular Diseases at the University of Ottawa Heart Institute, and for that project I have 2 publications in reputed journals.

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