Methods: We performed a propensity score (PS)-matched cohort study using data from Swedish nationwide healthcare registries (patient registry [secondary care], causes of death registry, prescribed drug registry). Patients aged 30-79 years who underwent bariatric surgery between 2003 and 2019 were matched to up to 2 obese bariatric surgery-free patients (called unexposed patients) based on their PS. PS-matching was carried out in risk set sampling to reduce selection bias, within 4 sequential cohort entry blocks to account for time trend biases. The outcome DD was defined as a diagnosis of DD in secondary care or partial or total fasciotomy of wrist or hand. After a 1-year run-in period, patients were followed in an “as-treated” approach. We applied Cox proportional hazard regression to calculate hazard ratios (HR) with 95% confidence intervals (CIs) of incident DD among bariatric surgery patients when compared to obese unexposed patients overall, and in subgroups of age, sex, bariatric surgery type, and by duration of follow-up.

Results: A total of 34 959 bariatric surgery patients were PS-matched to 54 769 obese unexposed patients. A total of 17.6% of bariatric surgery patients were women. Bariatric surgery patients had a mean age of 45.5 years and a mean follow-up of 6.9 years. All patient characteristics in obese unexposed patients were highly similar. We observed 126 and 136 severe DD cases among bariatric surgery and obese unexposed patients, respectively. The risk of DD was significantly increased in bariatric surgery patients compared to obese unexposed patients (HR = 1.30, 95% CI 1.02-1.65). The risk of DD was higher in women (HR = 1.36, 95% CI 1.00-1.84) than in men (HR = 1.05, 95% CI 0.70-1.58). Age did not modify the risk of DD among bariatric surgery patients compared to obese unexposed patients. Malabsorptive bariatric surgery yielded an increased risk of DD when compared to obese unexposed patients (HR = 1.33, 95% CI 1.04-1.71), while restrictive bariatric surgery yielded a null result. The risk of DD increased with duration of follow-up (>5 years of follow-up: RR = 1.63, 95% CI 1.14-2.34, null result in earlier follow-up).

Conclusion: Our results suggest that substantial weight loss is associated with a latent increased risk of severe DD in an obese population. This observation further strengthens current evidence that high body mass index is protective against DD. The latency of risk increase of DD after bariatric surgery may suggest that slowly adapting metabolic changes may be part of the mechanism of DD emergence.

References:

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