

Effect of bariatric surgery on metabolic syndrome, framingham risk scores, and thyroid function during one-year follow-up: A Saudi retrospective study

Nuha S. Alamro

KAMC, Saudi Arabia

Obesity is one of the most prominent epidemics of the twenty-first century; Obesity linked to the development of Metabolic Syndrome (MetS), which is a group of conditions that together raise the risk of coronary heart disease, diabetes, stroke, and other serious health problems. To prevent the occurrence of MetS among the obese population, weight loss is a key factor. Lifestyle modifications, dieting, and exercising require long-term commitment. Bariatric surgery (BS) has been demonstrated to achieve sustained weight loss with significant metabolic improvement, including a reduction in cardiovascular disease and diabetes. The aim of this retrospective study is to measure the effect of BS on the Framingham risk score (FRS) and metabolic syndrome (MetS) among patients who underwent BS. Additionally, we determine the effect of BS on thyroid-stimulating hormone (TSH) among euthyroid obese patients. Methods: A retrospective follow-up study was conducted at King Abdullah Medical City, Makkah, Saudi Arabia. A total of 160 patients underwent BS and completed one-year follow-up visits. Medical history, anthropometric, biochemical, and hormonal parameters were evaluated at baseline and 3–12 months after BS. The International Diabetes Federation (IDF) criteria were used to diagnose MetS. Finding: There was a significant decrease in systolic blood pressure (SBP), diastolic blood pressure (DBP), glycated hemoglobin (HbA1c), TSH, low-density lipoprotein (LDL), triglycerides, and total cholesterol ($p < 0.001$). A significant decrease was seen in MetS, BMI, FRS, SBP, DBP, HbA1c, LDL, triglycerides, cholesterol, and liver enzymes, with a significant increase in high-density lipoprotein levels 12 months postoperatively ($p < 0.001$). At 12 months, the prevalence of MetS, DM, and HTN and the FRS significantly decreased from 72.5%, 43.1%, 78.1%, and 11.4 to 16.3%, 9.4%, 22.5%, and 5.4, respectively. Conclusion: In addition to achieving substantial weight loss, BS improves MetS prevalence and cardiovascular risk profiles.

Biography

Ms. Nuha studied clinical nutrition bachelor and master degree at Umm-Alqura University. She has been working as clinical dietitian, quality and internship coordinator at King Abdullah Medical City since 2016, assigned in Internal Medicine and Specialized surgical ward, a member of irritable bowel disease multidisciplinary team. Participate as speaker in IBD webinar, Health coach Program in 2019-2020, Interested in Nutrition and Gastrointestinal Disease, Obesity and Metabolic syndrome, Geriatric Nutrition. Recently published a retrospective follow up study in Obesity and Metabolic syndrome filed.