

Effect of Bariatric Surgery on Metabolic Syndrome, Framingham Risk Score and Thyroid Function

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Abstract : Besides achieving of weight loss, Bariatric surgery (BS) shown metabolic improvement including reduction of cardiovascular disease, insulin resistance and diabetes. This study aimed to measure BS effects on Framingham Risk Score (FRS) and metabolic syndrome (MetS) among patients who underwent BS. Additionally, to determine the effect of BS on TSH among euthyroid obese patients. A Retrospective follow-up study was conducted in King Abdullah Medical City. A total of 160 participants who underwent BS and completed one year of follow ups. Medical history, biochemical, anthropometric, and hormonal parameters were evaluated at baseline and 3-12 months after BS. International Diabetes Federation (IDF) criteria were used to diagnose MetS pre and postoperative. The mean age of participants was 41.9 ± 10.6 with Body Mass Index (BMI) of 48.8 ± 7.3 . After 3 months, Systolic, Diastolic blood pressure (SBP, DBP), glycated haemoglobin (HBA1C), Low-density lipoprotein (LDL), cholesterol, triglycerides and Thyroid stimulating hormone (TSH) were significantly decrease ($P < 0.001$). Significant decrease was seen in Mets, BMI, FRS, SBP, DBP, HBA1C, LDL, triglycerides, cholesterol, liver enzyme, with significant increase in high-density lipoprotein (HDL) level 12 months post-op ($P < 0.001$). After 1 year, the prevalence of MetS, DM, HTN, FRS were significantly decrease from 72.5%, 43.1%, 78.1%, 11.4 to 16.3%, 9.4%, 22.5% and 5.4, respectively. Besides achieving substantial weight loss, MetS resolution was linked to improvement in cardiovascular risk profile.

Keywords : bariatric surgery, cardiovascular disease, metabolic syndrome, thyroid stimulating hormone

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