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Factors associated with remission of type 2 diabetes after bariatric surgery

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Introduction: Sleeve gastrectomy (LSG) is effective for glycemic control among obese type 2 diabetes (NIDDM) patients. C-peptide represents a predictor of NIDDM remission post LSG. Measuring basal C-peptide might identify appropriate LSG candidates.

Objectives: We examined the effectiveness of basal C-peptide and related factors as predictors for NIDDM resolution.

Methods: We retrospectively reviewed 50 NIDDM patients (BMI \geq 35) who underwent LSG between 2012 and 2015. Data were collected about patient's weight, age, NIDDM duration, C-peptide (basal), HbA1c (basal and 1-year post LSG), and TBWL (1-year post LSG). Complete resolution of NIDDM was correlated with age, basal C-peptide, duration of NIDDM, pre and post LSG HbA1c and TBWL. Preoperatively, mean age=45.7 years, mean BMI=46 kg/m², C-peptide range=1.0-10.9 ng/dl, HbA1c range=4.7%-14.7%. Mean NIDDM duration=8.1 years, mean NIDDM resolution rate at 1 year = 5.2%.

Results: Basal C-peptide was not significantly correlated with HbA1c 1 year post LSG; and remission NIDDM was not affected by high or low basal C-peptide levels (3.5 ng/mL was taken as median value of study population). NIDDM resolution at 1 year was not significantly correlated with patient's age; was negatively correlated with both the NIDDM duration ($p=0.009$) and with basal HbA1c ($p=0.001$); and positively correlated with TBWL ($p=0.016$).

Conclusion: Preoperative C-peptide is not a predictor of NIDDM resolution at 1 year post LSG regardless of patient's age. Shorter NIDDM duration, better pre-operative diabetes control and higher TBWL corresponded to a higher rate of complete diabetes resolution.

Biography

Isra Elgenaied Mustafa has completed her MBBS, MD from Khartoum University, Faculty of Medicine in 2007. She did her Internal Medicine Residency Program from Hamad Medical Corporation (HMC) Qatar. She got Arab Board Medical Specialization (ABMS) Certificate of Internal Medicine and is currently a Bariatric Medicine (Obesity Medicine) Clinical Fellow at HMC.

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