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Laparoscopic sleeve gastrectomy effect on pre-diabetic, diabetic patients with morbid obesity: A comparison between adults and adolescents

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Introduction: The prevalence of obesity is rising epidemically in Qatar population. Recent studies revealed that 42% of all Qataris are obese with 7.9% prevalence in adolescents. Treatment of pre-diabetes particularly in adolescent population can potentially reduce the risk of developing future diabetes.

Aim: Primary outcome: Comparing the outcomes of Laparoscopic Sleeve Gastrectomy (LSG) in adult vs. adolescent patients in terms of weight loss i.e. BMI and percentage excess loss (%EWL) at 6-12 months. The Secondary outcome: Comparing the effect on comorbidities (diabetes, pre-diabetes and obstructive sleep apnea), complications rate, patients' post-surgery behavioral compliance and satisfaction.

Method: Analysis of retrospective data of 139 adult vs. 91 adolescent patients 6-12 months post-operatively.

Result: LSG in 139 adults vs. 91 adolescents; 77% vs. 86% were Qataris, aged 37.4 ± 11.4 SD vs. 17 ± 1.5 SD, pre-operative BMI: 48.4 ± 8.7 vs. 47.6 ± 7.5 . Post-operative outcomes at 6-12 months showed BMI: 33.48 ± 6.9 SD vs. 36.4 ± 7.25 SD, %EWL: 66.7 ± 26 vs. 50.5 ± 26.8 for adolescents. Applying the American diabetes association guidelines for diagnosing and treating diabetes in both age groups revealed that about 47 vs. 32 patients were diabetic, their mean pre-operative HbA1c dropped from 8.2 ± 1.87 SD to 6.12 ± 0.089 SD (P value: 0.0001) vs. pre-operative HbA1c 10.3 ± 3.57 SD dropped to 6.2 ± 1.158 SD (P value: 0.0142). About 67.5% vs. 57% were cured. Pre-diabetic patients 33 vs. 32, their mean pre-operative HbA1c dropped from: 5.94 ± 0.22 SD to 5.24 ± 0.34 SD (P value: 0.0001) vs. 5.78 ± 0.328 to 5.28 ± 0.329 SD (P value: 0.0001). All adult prediabetes normalized their HbA1c level vs. 96.4% for adolescents. Complications occurred in both groups; (3.5% vs. 4.4%) e.g. post-operative bleeding (2 vs. 0 patients), leak (1 vs. 0), surgical site infection (1 vs. 1). One adult patient developed stenosis and had gastric bypass at a later stage. Three adolescent patients had post-LSG stenosis and managed successfully with endoscopic dilatations.

Conclusion: At 12 months operatively, LSG shows results comparable in adult and adolescent patients in terms of BMI, %EWL and complications. LSG is effective in preventing and treating diabetes and prediabetes in both age groups.

Biography

Nesreen Khidir has completed her MD from Khartoum University in Sudan. She finished her Clinical and Surgical training in General and Laparoscopic Surgery at Hamad Medical Corporation - Qatar (Arab Board for Health Specialization, General Surgery Program 2014). In the year 2014, she has joined Bariatric and Metabolic Surgery department in HMC as a Specialist. She has several presentations and publications at numerous prestigious international symposia and journals. She has also participated in several international Bariatric Laparoscopy and Endoscopy surgery conferences and courses as a candidate, a speaker and an instructor.

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