

Short-term results of single-port sleeve gastrectomy in adolescents with severe obesity

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Background

Dietary and lifestyle modifications commonly proposed to overweight or obese youth lack efficacy in those with severe obesity. Early results with bariatric procedures in obese adolescents suggest that weight loss and safety are comparable or better than those seen in adults. One of these procedures, laparoscopic sleeve gastrectomy, is commonly performed using multiple ports. We selected single port sleeve gastrectomy (SPSG) as a minimally invasive surgery to be tested in severely obese adolescents.

Objective and hypothesis

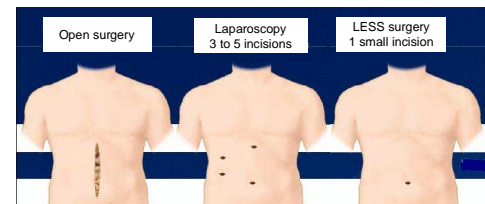
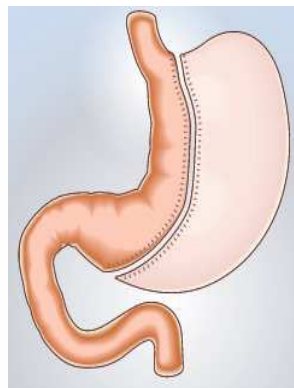
To evaluate efficacy and safety of SPSG in severely obese adolescents.

Patients and Methods

Prospective clinical and biochemical data were collected from 16 young severely obese patients who underwent SPSG (mean age 17.5 years, 12 girls, 4 boys. LSG was performed using a single-port procedure.

Clinical and biochemical characteristics of study group at baseline

	Mean ± SD	Range (min-max)
Mean follow-up after surgery (months)	14.0 ± 2.1	(12-18)
Age (years)	17.8 ± 1.9	(15.4 - 22.7)
Weight (kg)	125.5 ± 39.2	(91 - 227)
% Ideal Body Weight	197.6 ± 44.9	(152 - 324)
BMI (kg/m ²)	45.3 ± 9.2	(35.67 - 71.64)
BMI(kg/m ²) (SD)	4.8 ± 1.0	(3.64 - 7.24)
% Ideal BMI (kg/m ²)	198.0 ± 45.0	(152 - 324)
SBP (mmHg)	119.1 ± 12.6	(95-146)
DBP (mmHg)	60.1 ± 9.6	(43-81)
Glucose (mmol/l)	4.9 ± 0.5	(4.2 - 5.9)
Insulin (µU/ml)	28.3 ± 10.9	(12-53)
HOMA-IR	6.3 ± 2.6	(2.6 - 10.8)
Triglycerides (mmol/l)	1.30 ± 0.62	(0.46 - 2.46)



Results

Median operating time was 66 minutes. There were no intraoperative complications. No conversion to open surgery was required. No patient required additional trocars. No patient had postoperative complications. The median hospital stay was **3 days**.

During a median follow-up of 14.0 months, weight decreased by **40.33 Kg**, resulting in a **decrease of Excess Weight Loss by 70.61 %**. Insulin-resistance decreased in all patients and hypertriglyceridemia in 5/6.

	6 months	p ¹	12 months	p ²	p ³
Weight (kg)	97.8 ± 30.6	n.s.	79.23 ± 14.7	<0.001	n.s.
Weight loss (kg)	35.0 ± 15.24	-	40.33 ± 19.1	-	n.s.
% Weight loss	26.0 ± 6.1	-	32.56 ± 6.9	-	<0.05
% Excess Weight loss	52.27 ± 16.53	-	70.61 ± 19.7	-	<0.05
BMI (kg/m ²)	35.36 ± 7.5	<0.05	29.66 ± 4.66	<0.001	n.s.
BMI (kg/m ²) (SD)	3.65 ± 1.2	<0.05	2.58 ± 1.0	<0.001	n.s.
% Excess BMI loss	52.77 ± 16.67	-	70.38 ± 19.61	-	<0.05
SBP (mmHg)	115.4 ± 14	n.s.	112.2 ± 4.0	n.s.	n.s.
DBP (mmHg)	60.4 ± 10.7	n.s.	67.3 ± 10.3	n.s.	n.s.
Glucose (mmol/l)	4.4 ± 0.4	n.s.	4.4 ± 0.5	n.s.	n.s.
Insulin (µU/ml)	14.7 ± 9.0	<0.05	13.3 ± 10.6	<0.05	n.s.
HOMA-IR	3.3 ± 2.0	<0.05	2.8 ± 2.3	<0.05	n.s.
Triglycerides (mmol/l)	0.98 ± 0.55	n.s.	0.96 ± 0.49	n.s.	n.s.

p¹: T6 vs T0, p²: T12 vs T0, p³: T12 vs T6

Data are expressed as Mean ± Standard Deviations

Conclusions

SPSG seems safe and effective in the short term in severely obese adolescents.

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Disclosure statement

none of the authors have conflict of interest to declare.

