Supplementary Table 1: Clinical characteristics of patients who had SMAS with GERD (*n* = 30).

Clinical characteristics	Number	%
Female	22	73.3
Anorexia	18	60.0
Heartburn	17	56.7
Acid regurgitation	14	46.7
Abdominal distension	12	40.0
Nausea and vomiting	12	40.0
Belching	12	40.0
Abdominal pain	8	26.7
Dry mouth, bitter mouth	6	20.0
Chest pain	5	16.7
Dysphagia	4	13.3
Antiphagia	3	10.0
Chest tightness	8	26.7
Foreign body sensation	7	23.3
Cough	5	16.7
Previous PPI use	23	76.7
Reflux esophagitis	16	53.3
Bile reflux gastritis	11	36.7
Chronic superficial gastritis with erosion	3	10.0
Chronic erosive gastritis	3	10.0
Gastroptosis	18	60.0

GERD: Gastroesophageal reflux disease; SMAS: Superior mesenteric artery syndrome.

Supplementary Table 2: Twenty-four-hour pH-impedance monitoring results of patients who had SMAS with GERD (27 cases).

Pathological acid reflux severity classification	Acid reflux events (*n*)	Weak acid reflux events (*n*)	Non-acid reflux events (*n*)	No reflux events (*n*)
No pathological acid reflux (13 cases)	1	6	4	5
Mild pathological acid reflux (10 cases)	2	6	4	3
Moderate pathological acid reflux (3 cases)	0	1	1	0
Severe pathological acid reflux (1 case)	0	1	0	0
Total	3	14	9	8

GERD: Gastroesophageal reflux disease; SMAS: Superior mesenteric artery syndrome.

Supplementary Table 3: Comparison of symptom scores before and after the operation.

Symptoms	Preoperative scores	Postoperative scores	*P*-value
Anorexia	7.0 (3.0, 8.0)	0.0 (0.0, 5.0)	0.00
Heartburn	7.0 (0.0, 8.0)	0.0 (0.0, 7.0)	0.03
Acid regurgitation	7.0 (5.0, 8.0)	0.0 (0.0, 7.0)	0.02
Abdominal distension	8.0 (0.0, 9.0)	0.0 (0.0,6.0)	0.03
Nausea	7.0 (5.0, 8.0)	0.0 (0.0, 0.0)	0.04
Vomiting	7.0 (5.0, 8.0)	0.0 (0.0, 0.0)	0.04
Belching	7.0 (3.0, 8.0)	0.0 (0.0, 3.0)	0.02

Data are presented as median (minimum, maximum).