Supplementary Figure. Association of FLIP panometry with high-resolution manometry (HRM) parameters and acid exposure. Each subject is represented by a row; subjects are listed by increasing esophagogastric junction (EGJ) distensibility indices (DI). Repetitive antegrade contractions (RACs) presence and occlusion status by distension volume are displayed, as are the EGJ-DI from the 60-ml fill volume, high-resolution manometry (HRM) motility diagnoses, median integrated relaxation pressure (IRP) and median distal contractile integral (DCI) values from the 10-supine swallows on HRM, and 24-hour acid exposure time (AET).

The correlations of EGJ-DI with median IRP, basal EGJ pressure, and AET were -0.67 (P = 0.001), -0.42 (P = 0.067), and -0.17 (P = 0.49) respectively. The correlations of maximum EGJ diameter with median IRP, basal EGJ pressure, and AET were -0.739 (P < 0.001), -0.08 (P = 0.74) and 0.14 (p = 0.586).

The median DCI was lower among subjects without occluding contractions at fill volumes ≥ 40 ml or with RAC cessation (n = 5), i.e. features potentially indicating a weak contractile response, median (IQR) median DCI 1096 (927 – 2545) mmHg•cm•s than those not meeting these criteria: median (IQR) median DCI 2340 (1762 – 4632); P = 0.033.

Supplementary Table. Normal values of FLIP panometry in 30 subjects. Results reflect combined results of the present cohort (n=20) and a previously described pilot cohort (n=10).[2] Minor study protocol differences that could contribute to result differences (particularly in maximum EGJ diameter and contractile response parameters) with the pilot cohort include a maximum distension volume of 60ml and time at each incremental distension volume of only 10-20 seconds. Additionally, HRM was not uniformly completed among this cohort. However, values do not substantially differ with those reported in the present cohort of 20 subjects. *Catheter positioning in one subject prevented distensibility plateau (DP) quantification. **n=28 subjects in which a repetitive antegrade contraction (RAC) pattern was observed. EGJ-DI – esophagogastric junction distensibility index

	Median	**10^{th} -90^{th} percentile**	**Threshold**	**n (%) meeting threshold**
EGJ-DI, 60ml (mm^2/mmHg)	5.8	3.4 – 9.3	> 2.8	30 (100)
Maximum EGJ diameter (mm)	23.3	21.4 – 30.4	≥ 18	28 (93)
DP, distal body (mm)	20.5	19.6 – 21.8	≥ 18	28/29* (100)
Antegrade contractions	--		Present	30 (100)
RAC pattern	--		Present	28 (93)
Repetitive retrograde contraction (RRC) pattern	--		Absent	30 (100)
Antegrade contractions *characteristics*				
Lumen occlusion	--	--	At distension volumes 40-60 ml	23 (77)
Duration of RAC pattern (number of ACs)	24	12 – 32	≥ 10	25/28 (83)**
RAC pattern cessation	--	--	Absent	22/28 (79)**

EGJ-DI (mm^2/mmHg)	FLIP distension volume (ml)						HRM Motility diagnosis	Median IRP (mmHg)	Median DCI (mmHg•cm•s)	AET (%)
	20	30	40	50	60	70				
2.9							Normal	15	1090	0.9
4.0							Normal	12	4092	1.9
4.2							EGJOO	18	1097	1.5
4.5							Normal	9	1060	0.1
4.9							Normal	15	3801	0
5.0							Normal	10	2031	
5.1							EGJOO	16	3078	0.4
5.2							Normal	12	1634	1.4
5.6							Normal	14	2196	1.9
5.7							Normal	13	1762	
5.8							Normal	12	1535	0.3
5.8							Normal	14	7168	0.7
6.0							Normal	8	5592	0.6
6.5							IEM	14	763	0.3
6.7							Normal	8	2340	0.5
6.7							Normal	9	5652	0.2
7.8							Normal	12	3321	1.5
8.2							Normal	7	2340	2.6
9.3							Normal	9	4631	0.4
11.9							Normal	8	2018	5.5