Supplement 1 Baseline data of two therapy groups

Characteristics	LETVB$_{12}$ (n = 255)	Celecoxib (n = 64)
Age (year)	54 ± 8.53	54 ± 8.00
Male, n (%)	158 (61.96)	42 (65.63)
Median BMI (kg/m²)	22.96 ± 3.10	22.93 ± 2.53
OLGIM stage, n (%)		
I	64 (25.10)	6 (9.38)
II	110- (43.14)	32 (12.40)
III	62 (24.31)	16 (6.27)
IV	19 (7.45)	10 (15.63)
OLGA stage, n (%)		
0	23 (9.02)	1 (1.56)
I	14 (5.49)	0 (0.00)
II	102 (40.00)	20 (31.25)
III	81 (31.76)	23 (35.94)
IIV	35 (13.73)	20 (31.25)
LGIN	21 (8.24)	1 (1.56)
Education level (≥ senior high school), n (%)	155 (60.78)	46 (71.86)
Personality, n (%)		
Extroversion	69 (27.06)	20 (31.25)
Middle type	128 (50.20)	28 (43.75)
Introversion	58 (22.75)	16 (25.00)
Blood type, n (%)		
A	41 (16.08)	11 (17.19)
B	44 (17.25)	7 (10.94)
O	57 (22.35)	18 (29.13)
AB	24 (9.41)	6 (9.38)
Unkown	89 (34.90)	22 (34.38)
Profession, n (%)		

Farmer	85 (33.33)	17 (26.56)
Officer	37 (14.51)	14 (21.88)
Medic	2 (0.78)	-
Teacher	18 (7.06)	7 (10.94)
Merchant	20 (7.84)	5 (7.81)
Technical staff	30 (11.76)	8 (12.5)
Retired	38 (14.90)	8 (12.5)
Unemployed	25 (9.80)	5 (7.81)
Income (≥ 5000 yuan/month), n (%)	80 (31.37)	22 (34.38)
Family history of GC, n (%)	60 (23.53)	22 (34.38)
Inflammation score (score > 2), n (%)	81 (31.76)	21 (32.81)
History of smoking, n (%)	186 (72.94)	48 (75.00)
History of drinking, n (%)	108 (42.35)	30 (46.88)
Hypertension, n (%)	49 (19.22)	11 (17.19)
CHD, n (%)	21 (8.24)	3 (4.69)
Diabetes, n (%)	10 (3.92)	1 (1.56)
Autoimmune disease, n (%)	15 (5.88)	3 (4.69)
Hyperlipidemia, n (%)	20 (7.84)	3 (4.69)
Peptic ulcers, n (%)	51 (20)	17 (26.56)
Biliary tract disease, n (%)	66 (25.88)	23 (35.94)
History of cholecystectomy, n (%)	23 (9.02)	9 (14.06)
Metformin, n (%)	9 (3.53)	1 (1.56)
NSAID, n (%)	50 (19.61)	13 (20.31)
Statins, n (%)	39 (15.29)	9 (14.06)
Vitamin, n (%)	61 (23.92)	13 (20.31)
Antibiotics, n (%)	187 (73.33)	13 (20.31)
High-salt diet, n (%)	190 (74.51)	41 (64.06)
Overnight dishes, n (%)	202 (79.22)	50 (78.13)
Fried food, n (%)	222 (87.06)	59 (92.19)

Pickled food, n (%)	203 (79.61)	51 (79.69)
Spicy food, n (%)	179 (70.20)	49 (76.56)
Smoked food, n (%)	161 (63.14)	47 (73.44)
Fresh vegetable intake (> 100 g/d), n (%)	223 (87.45)	59 (92.19)
Fresh fruit intake (> 100 g/d), n (%)	211 (82.75)	52 (81.25)
Tea intake (> 100 g/d), n (%)	80 (31.37)	25 (39.06)
Coffee intake (> 100 g/d), n (%)	6 (2.35)	4 (6.25)
Dairy products intake (> 100 g/d), n (%)	96 (37.65)	26 (40.63)
Water source (tap water), n (%)	205 (80.39)	31 (48.44)

CHD: Coronary heart disease; GC: Gastric cancer; LTEVB$_{12}$: Lamb's tripe extract vitamin B$_{12}$ capsule; NASID: Nonsteroidal anti-inflammatory drug; OLGA: Operative link on gastritis assessment; OLGIM: Operative link on gastric intestinal metaplasia assessment.

Supplement 2 Factors correlated with regression of intestinal metaplasia (univariate analysis)

Factors	LTEVB$_{12}$			Celecoxib		
	OR	95%CI	*P* value	OR	95%CI	*P* value
Age (> 65)	2.170	0.861-5.472	0.100	1.588	0.137-18.461	0.712
Education level (≥ senior high school)	0.764	0.461-1.267	0.297	2.681	0.874-8.223	0.085
Sex	2.170	0.861-5.472	0.100	0.900	0.319-2.542	0.842
BMI	1.077	0.650-1.787	0.773	2.400	0.816-7.059	0.112
Personality (ref: extroversion)			0.608			0.277
Middle type	1.317	0.732-2.367	0.358	0.495	0.147-1.660	0.254
Introversion	1.343	0.666-2.706	0.410	0.333	0.084-1.318	0.117
Blood type (ref: A)			0.221			0.985
B	1.082	0.516-2.272	0.834	0.762	0.110-5.283	0.783
O	2.003	0.938-4.277	0.073	0.714	0.153-3.334	0.669
AB	0.784	0.403-1.527	0.474	0.571	0.076-4.297	0.587
Unkown	0.791	0.320-1.954	0.611	0.686	0.155-3.036	0.619
Profession (ref: Farmer)			0.626			0.621
Officer	0.830	0.383-1.800	0..637	1.905	0.454-7.983	0.378
Medic	0.977	0.059-16.130	0.987			
Teacher	0.622	0.220-1.756	0.370	0.571	0.085-3.8333	0.564
Merchant	1.465	0.544-3.945	0.450	5.714	0.521-62.659	0.154
Technical staff	1.116	0.485-2.570	0.796	2.381	0.423-13.387	0.325
Retired	1.343	0.621-2.906	0.454	2.381	0.423-13.387	0.325
Unemployed	2.076	0.809-5.323	0.129	-	0.000	0.999
Income level(≥ 5000 yuan/mo)	1.048	0.617-1.782	0.861	4.116	1.280-12.230	0.018
Family history of GC	0.785	0.440-1.402	0.414	0.513	0.180-1.458	0.210
Inflammation score(score > 2)	0.702	0.413-1.191	0.189	1.565	0.648-3.782	0.320
History of smoking	0.963	0.554-1.676	0.894	1.000	0.320-3.128	1.000

History of drinking	0.917	0.564-1.525	0.765	1.032	0.384-2.778	0.950
Hypertension	0.909	0.487-1.696	0.764	0.375	0.098-1.441	0.153
CHD	1.868	0.728-4.795	0.194	-	0.000	0.999
Diabetes	0.367	0.093-1.454	0.153			1.000
Autoimmune disease	1.017	0.357-2.893	0.975	1.588	0.137-18.461	0.712
Hyperlipidemia	1.492	0.596-3.733	0.393	0.371	0.032-4.319	0.429
Peptic ulcers	0.954	0.514-1.772	0.882	3.391	0.964-11.934	0.057
Biliary tract disease	0.696	0.397-1.217	0.204	1.343	0.476-3.794	0.577
History of cholecystectomy	0.798	0.339-1.883	0.607	0.600	0.136-2.646	0.500
Metformin	0.523	0.122-2.235	0.382			1.000
NSAID	0.882	0.440-1.533	0.537	2.000	0.545-7.337	0.296
Statins	0.772	0.393-1.518	0.453	0.968	0.234-3.998	0.964
Vitamin	1.265	0.708-2.261	0.427	2.000	0.545-7.337	0.296
Antibiotics	1.222	0.699-2.136	0.482	0.709	0.222-2.263	0.562
High-salt diet	1.926	1.090-3.402	0.024	0.983	0.351-2.752	0.974
Overnight dishes	0.830	0.451-1.526	0.549	0.955	0.288-3.159	0.939
Fried food	0.699	0.331-1.473	0.346	0.296	0.031-2.812	0.289
Pickled food	1.103	0.597-2.039	0.754	1.667	0.490-5.672	0.414
Spicy food	1.275	0.745-2.183	0.375	2.368	0.726-7.724	0.153
Smoked food	1.167	0.702-1.940	0.552	1.200	0.394-3.656	0.748
Fresh vegetable intake (> 100 g/d)	0.467	0.211-1.031	0.060	0.846	0.132-5.444	0.860
Fresh fruit intake (> 100 g/d)	1.607	0.834-3.094	0.156	0.901	0.253-3.212	0.872
Tea intake (> 100 g/d)	0.728	0.428-1.237	0.240	3.000	1.023-8.802	0.045
Coffee intake (> 100 g/ d)	0.436	0.78-2.425	0.343	2.455	0.241-24.967	0.448
Dairy products intake (> 100 g/d)	1.251	0.754-2.076	0.387	1.705	0.608-4.780	0.311
Water source (tap water)	0.898	0.480-1.679	0.736	1.130	0.333-3.839	0.845

BMI: Body mass index; CHD: Coronary heart disease; CI: Confidence interval;

GC: Gastric cancer; LTEVB$_{12}$: Lamb's tripe extract vitamin B$_{12}$ capsule; NASID: Nonsteroidal anti-inflammatory drug; OR: Odd ratio.

Supplement 3 Factors correlated with regression of atrophic gastritis (univariate analysis)

Factors	LTEVB$_{12}$			Celecoxib		
	OR	95%CI	*P* value	OR	95%CI	*P* value
Age (> 65)	1.442	0.608-3.420	0.406	-	-	0.999
Education level (≥ senior high school)	0.598	0.360-0.993	0.047	1.488	0.497-4.452	0.297
Sex	1.416	0.852-2.352	0.179	1.200	0.426-3.376	0.730
BMI	0.805	0.485-1.335	0.400	2.396	0.833-6.893	0.105
Personality (ref: extroversion)			0.278			0.686
Middle type	1.198	0.667-2.153	0.545	1.333	0.421-4.222	0.625
Introversion	0.717	0.353-1.454	0.356	0.778	0.208-2.913	0.709
Blood type (ref: A)			0.218			0.111
B	1.247	0.528-2.945	0.614	1.429	0.184-11.085	0.733
O	0.543	0.241-1.224	0.141	0.286	0.059-1.375	0.118
AB	0.518	0.185-1.451	0.211	0.114	0.010-1.356	0.086
Unkown	0.844	0.402-1.772	0.655	1.000	0.222-4.502	1.000
Profession (ref: Farmer)			0.204			0.652
Officer	0.476	0.209-1.085	0.077	1.185	0.285-4.922	0.815
Medic	1817409198	0	0.999			
Teacher	1.125	0.407-3.112	0.820	0.356	0.053-2.368	0.285
Merchant	0.750	0.278-2.020	0.569	1.333	0.176-10.120	0.781
Technical staff	2.250	0.942-5.373	0.068	0.533	0.096-2.976	0.474
Retired	1.250	00.581-2.689	0.568	2.667	0.414-17.169	0.302
Unemployed	1.219	0.499-2.976	0.664	0.593	0.078-4.498	0.613
Income level- (≥ 5000 yuan/mo)	0.958	0.564-1.627	0.874	1.589	0.560-4.511	0.384
Family history of GC	0.921	0.516-1.645	0.781	0.785	0.440-1.402	0.414
Inflammation score (score > 2)	1.430	0.842-2.428	0.185	1.255	0.533-2.955	0.604
History of smoking	0.872	0.502-1.516	0.628	0.552	0.173-1.760	0.315
History of drinking	0.674	0.409	0.123	0.413	0.151-1.129	0.085

Hypertension	1.038	0.556-1.935	0.908	2.987	0.713-12.509	0.134
CHD	0.973	0.398-2.380	0.953	1.935	0.167-22.482	0.598
Diabetes	0.706	0.194-2.564	0.597	-	-	-
Autoimmune disease	1.242	0.437-3.534	0.684	0.527	0.039-5.264	0.453
Hyperlipidemia	1.198	0.490-2.929	0.692	1.935	0.167-22.482	0.598
Peptic ulcers	0.660	0.352-1.238	0.195	0.782	0.257-2.377	0.665
Biliary tract disease	1.057	0.605-1.846	0.846	0.334	0.215-1.686	0.602
History of cholecystectomy	0.810	0.342-1.921	0.633	1.205	0.292-4.972	0.796
Metformin	0.635	0.149-2.715	0.540	-	-	-
NSAID	1.148	0.616-2.141	0.664	0.762	0.225-2.584	0.663
Statins	0.760	0.384-1.503	0.430	0.717	0.174-2.959	0.646
Vitamin	1.146	0.644-2.037	0.643	2.531	0.690-9.286	0.161
Antibiotics	0.805	0.460-1.406	0.445	1.087	0.350-3.371	0.885
High-salt diet	1.622	0.917-2.869	0.096	0.733	0.262-2.046	0.553
Overnight dishes	0.872	0.476-1.597	0.658	0.750	0.227-2.477	0.637
Fried food	0.860	0.414-1.788	0.686	1.661	0.258-10.676	0.593
Pickled food	0.962	0.520-1.776	0.900	0.891	0.263-3.022	0.854
Spicy food	0.975	0.570-1.667	0.926	0.911	0.286-2.904	0.875
Smoked food	1.130	0.680-1.880	0.637	1.769	0.575-5.443	0.320
Fresh vegetable intake (> 100 g/d)	0.799	0.380-1.679	0.554	4.741	0.499-44.995	0.175
Fresh fruit intake (> 100 g/d)	1.431	0.740-2.765	0.286	1.633	0.458-5.819	0.449
Tea intake (> 100 g/d)	0.615	0.360-1.053	0.076	1.029	0.377-2.811	0.955
Coffee intake (> 100 g/d)	0.529	0.095-2.940	0.467	-	-	-
Dairy products intake(> 100 g/d)	0.863	0.520-1.431	0.568	0.733	0.262-2.046	0.553
Water source (tap water)	1.181	0.631-2.207	0.603	0.891	0.263-3.022	0.854

BMI: Body mass index; CHD: Coronary heart disease; CI: Confidence interval;

GC: Gastric cancer; LTEVB$_{12}$: Lamb's tripe extract vitamin B$_{12}$ capsule; NASID:

Nonsteroidal anti-inflammatory drug; OR: Odd ratio.