

Supplementary Table 1. Comparison of clinical characteristics according to EUS performed at diagnosis

		EUS performed at diagnosis (<i>n</i> = 881) (%)	EUS performed diagnosis (<i>n</i> = 1,665) (%)	not at <i>P</i> value
Sex	Male	387 (43.9)	775 (46.5)	0.207
	Female	494 (56.1)	890 (53.5)	
Age at diagnosis (mean ± SD)		63.92 ± 13.62	67.19 ± 13.01	< 0.001
Duration of F/U (mean ± SD, mo)		75.21 ± 47.32	81.56 ± 45.85	0.001
Size		11.11 ± 6.05	7.27 ± 5.34	<0.001
Size group	<1cm	354 (40.2)	1,246 (74.8)	<0.001
	1-2cm	394 (44.7)	363 (21.8)	
	2-3cm	119 (13.5)	28 (1.7)	
	≥3cm	14 (1.6)	28 (1.7)	
Shape	Round	763 (87.2)	1,249 (94.3)	<0.001
	Irregular	112 (12.8)	76 (5.7)	
Ulceration	Absent	878 (99.9)	1,661 (99.8)	0.493
	Present	1 (0.1)	4 (0.2)	
Erosion	Absent	870 (99.0)	1,654 (99.3)	0.324
	Present	9 (1.0)	11 (0.7)	
Rolling sign	Absent	286 (50.6)	482 (39.7)	<0.001
	Present	279 (49.4)	731 (60.3)	
Cushion sign	Absent	643 (87.5)	970 (84.6)	0.085
	Present	92 (12.5)	176 (15.4)	

EUS, endoscopic ultrasound.

Supplementary Table 2. Risk factors for size increment $\geq 25\%$

Variable		Univariate	P value	Multivariate	P value
Sex	Female	Ref	0.458		
	Male	0.92 (0.75-1.14)			
Age		0.98 (0.97-0.98)	< 0.001	0.98 (0.96-0.99)	0.006
Size		0.99 (0.97-1.01)	0.192	0.95 (0.91-0.99)	0.007
Shape	Round	Ref	0.272		
	Irregular	1.24 (0.85-1.82)			
Ulceration	No	Ref	0.427		
	Yes	0.05 (0.00-82.30)			
Erosion	No	Ref	0.293		
	Yes	0.05 (0.00-13.52)			
Rolling sign	No	Ref	< 0.001	Ref	0.003
	Yes	0.65 (0.51-0.82)		0.52 (0.34-0.80)	
Cushion sign	No	Ref	0.242		
	Yes	0.80 (0.56-1.16)			
Internal change	No	Ref	0.148	Ref	0.117
	Anechoic space	0.44 (0.21-0.95)		0.19 (0.04-0.81)	
	Calcification	0.86 (0.38-1.95)		0.82 (0.19-3.51)	
	Echogenic foci	0.65 (0.34-1.24)		0.37 (0.14-0.94)	
	Septation	0.00 (0.00-9.22x10 ⁶)		0.000	
Originating layer	Muscularis mucosa	Ref	0.009	Ref	0.713
	Submucosa	2.11 (1.04-4.26)		1.33 (0.59-3.00)	
	Proper muscle	2.70 (1.40-5.19)		1.35 (0.66-2.80)	
Echogenicity	Hypoechoic	Ref	0.467		
	Isoechoic	1.01 (0.37-2.73)			
	Hyperechoic	1.50 (0.79-2.87)			
Homogeneity	Homogenous	Ref	0.085	Ref	0.001
	Heterogenous	1.37 (0.96-1.97)		2.35 (1.44-3.84)	

Supplementary Table 3 Risk factors for size increment $\geq 5\text{mm}$

Variable		Univariate	P value	Multivariate	P value
Sex	Female	Ref	0.535		
	Male	1.09 (0.83-1.42)			
Age		0.97 (0.96-0.98)	< 0.001	0.99 (0.97-1.00)	0.035
Size		1.05 (1.04-1.07)	< 0.001	1.05 (1.03-1.08)	< 0.001
Shape	Round	Ref	0.007	Ref	0.381
	Irregular	1.81 (1.18-2.77)		1.27 (0.75-2.15)	
Ulceration	No	Ref	0.533		
	Yes	0.05 (0.00-641.41)			
Erosion	No	Ref	0.382		
	Yes	0.05 (0.00-42.00)			
Rolling sign	No	Ref	< 0.001	Ref	< 0.001
	Yes	0.34 (0.24-0.47)		0.32 (0.19-0.55)	
Cushion sign	No	Ref	0.255		
	Yes	0.77 (0.49-1.21)			
Internal change	No	Ref	0.609		
	Anechoic space	0.79 (0.41-1.52)			
	Calcification	0.62 (0.23-1.70)			
	Echogenic foci	1.00 (0.56-1.78)			
	Septation	0.00 (0.00- 9.20x10 ⁶)			
Originating layer	Muscularis mucosa	Ref	0.020	Ref	0.143
	Submucosa	2.87 (1.34-6.15)		1.73 (0.74-4.20)	
	Proper muscle	2.71 (1.31-5.64)		2.21 (0.98-5.00)	
Echogenicity	Hypoechoic	Ref	0.408		
	Isoechoic	0.29 (0.04-2.10)			
	Hyperechoic	1.21 (0.59-2.48)			
Homogeneity	Homogenous	Ref	0.005	Ref	0.115
	Heterogenous	1.70 (1.18-2.46)		1.48 (0.91-2.41)	

Supplementary Table 4 Risk factors for size increment $\geq 10\text{mm}$

Variable		Univariate	P value	Multivariate	P value
Sex	Female	Ref	0.952		
	Male	1.01 (0.64-1.60)			
Age		0.97 (0.95-0.98)	< 0.001	0.98 (0.96-1.00)	0.039
Size		1.12 (1.11-1.13)	< 0.001	1.04 (1.00-1.09)	0.037
Shape	Round	Ref	< 0.001	Ref	0.077
	Irregular	3.44 (1.91-6.21)		2.00 (0.93-4.30)	
Ulceration	No	Ref	0.732		
	Yes	0.05 (0.00-1480571.03)			
Erosion	No	Ref	0.600		
	Yes	0.05 (0.00-3795.63)			
Rolling sign	No	Ref	< 0.001	Ref	0.004
	Yes	0.32 (0.18-0.56)		0.23 (0.08-0.63)	
Cushion sign	No	Ref	0.084	Ref	0.136
	Yes	0.41 (0.15-1.13)		0.32 (0.07-1.44)	
Internal change	No	Ref	0.709		
	Anechoic space	0.22 (0.03-1.63)			
	Calcification	0.40 (0.06-2.92)			
	Echogenic foci	0.97 (0.38-2.47)			
	Septation	0.00 (0.00-9.33x10 ⁶)			
	Originating layer				
	Muscularis mucosa	Ref	0.171	Ref	0.437
	Submucosa	4.10 (0.94-17.94)		3.07 (0.38-24.82)	
	Proper muscle	3.67 (0.87-15.40)		3.70 (0.48-28.30)	
Echogenicity	Hypoechoic	Ref	0.436		
	Isoechoic	0.04 (0.00-218.05)			
	Hyperechoic	0.04 (0.00-13.55)			
Homogeneity	Homogenous	Ref	0.005	Ref	0.065
	Heterogenous	2.31 (1.28-4.15)		2.09 (0.96-4.58)	

Supplementary Table 5 Time taken for size increase

	Cases (%)	Interval (days, mean $\pm$ SD)
Size increment $\geq 25\%$		
<1cm	205/1,600 (12.8)	536.2 $\pm$ 818.1
1-2cm	70/757 (9.2)	1,050.8 $\pm$ 1,319.2
2-3cm	8/147 (5.4)	1,550.3 $\pm$ 1,374.9
≥ 3 cm	4/42 (9.5)	233.5 $\pm$ 269.6
Size increment ≥ 5 mm		
<1cm	74/1,600 (4.6)	1,487.4 $\pm$ 1,241.7
1-2cm	73/757 (9.6)	1,732.9 $\pm$ 1,270.8
2-3cm	25/147 (17.0)	1,808.6 $\pm$ 1,120.8
≥ 3 cm	4/42 (9.5)	510.8 $\pm$ 418.3
Size increment ≥ 10 mm		
<1cm	21/1,600 (1.3)	1,466.0 $\pm$ 1,217.7
1-2cm	22/757 (2.9)	1,837.2 $\pm$ 1,240.8
2-3cm	4/147 (2.7)	2,102.0 $\pm$ 1,810.6
≥ 3 cm	4/42 (9.5)	695.0 $\pm$ 205.5
From less than 1 cm to at least 2 cm	14/1,600 (0.9)	260.3 $\pm$ 455.9
From less than 2 cm to at least 3 cm	11/2,253 (0.5)	1494.4 $\pm$ 1240.5

Supplementary Table 6 Risk factors for intervention during follow-up

Variable		Univariate	P value	Multivariate	P value
Sex	Female	Ref	0.034	Ref	0.621
	Male	1.35 (1.02-1.77)		1.11 (0.73-1.68)	
Age		0.96 (0.95-0.97)	< 0.010	0.98 (0.96-1.00)	0.014
Size		1.09 (1.08-1.09)	< 0.001	1.08 (1.06-1.09)	< 0.001
Size group	<1cm	Ref	< 0.001		
	1-2cm	2.73 (1.81-4.12)			
	2-3cm	17.96 (12.14-26.58)			
	≥3cm	28.83 (18.60-44.66)			
Shape	Round	Ref	< 0.001	Ref	0.861
	Irregular	2.78 (1.93-4.00)		1.05 (0.62-1.77)	
Ulceration	No	Ref	< 0.001	Ref	0.089
	Yes	7.46 (3.06-18.20)		0.17 (0.02-1.31)	
Erosion	No	Ref	0.001	Ref	0.001
	Yes	3.82 (1.79-8.12)		7.17 (2.17-23.74)	
Rolling sign	No	Ref	< 0.001	Ref	0.002
	Yes	0.31 (0.22-0.44)		0.41 (0.24-0.72)	
Cushion sign	No	Ref	0.014	Ref	0.130
	Yes	0.51 (0.30-0.87)		0.49 (0.19-1.24)	
Internal change	No	Ref	0.336	Ref	0.049
	Anechoic space	0.89 (0.48-1.66)		1.00 (0.38-2.63)	
	Calcification	0.31 (0.08-1.25)		0.18 (0.04-0.85)	
	Echogenic foci	1.44 (0.89-2.32)		0.70 (0.28-1.73)	
	Septation	0.00 (0.00-3.22x10 ⁶)		0.00	
Originating layer	Mucosa	Ref	0.002	Ref	0.069
	Submucosa	4.10 (1.86-9.04)		3.61 (1.22-10.74)	
	Proper muscle	2.99 (1.38-6.49)		3.04 (1.02-9.06)	
Echogenicity	Hypoechoic	Ref	0.627	Ref	0.583
	Isoechoic	0.96 (0.00-9.22x10 ⁶)		0.00 (0.00-9.22x10 ⁶)	

	Hyperechoic	0.64 (0.26-1.58)		0.46 (0.11-2.00)	
Homogeneity	Homogenous	Ref	< 0.001	Ref	0.001
	Heterogenous	1.91 (1.35-2.69)		2.24 (1.41-3.55)	

Supplementary Table 7 Comparison stratified by location

		Esophagus (<i>n</i> = 485) (%)	Stomach (<i>n</i> = 1,809) (%)	Duodenum (<i>n</i> = 252) (%)	<i>P</i> value
Sex	Male	266 (54.8)	746 (41.2)	150 (59.5)	<0.001
	Female	219 (45.2)	1,063 (58.8)	102 (40.5)	
Age at diagnosis (mean ± SD)		65.32 ± 12.72	66.18 ± 13.49	66.60 ± 13.13	0.357
Duration of F/U (mean ± SD, mo)		73.04 ± 45.49	80.56 ± 46.51	82.93 ± 46.95	0.003
Size		8.68 ± 5.99	8.47 ± 5.98	9.35 ± 4.92	0.079
Size group	<1cm	316 (65.2)	1,151 (63.6)	133 (52.8)	<0.001
	1-2cm	120 (24.7)	530 (29.3)	107 (42.5)	
	2-3cm	41 (8.5)	95 (5.3)	11 (4.4)	
	≥3cm	8 (1.6)	33 (1.8)	1 (0.4)	
EUS performed at diagnosis	No	288 (59.4)	1,180 (65.2)	197 (78.2)	<0.001
	Yes	197 (40.6)	629 (34.8)	55 (21.8)	
Intervention during F/U	No	476 (98.1)	1,768 (97.7)	249 (98.8)	0.495
	Yes	9 (1.9)	41 (2.3)	3 (1.2)	
Annual growth rate (cm/year)		0.81 ± 3.37	1.91 ± 9.10	0.70 ± 2.49	0.004

EUS, endoscopic ultrasound.