Prevalence of Neoplastic Lesions in Small Gastric Subepithelial Lesions Undergoing Surgical Resection according to the Risk Features

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INTRODUCTION

- Diagnosis of asymptomatic **small gastric subepithelial lesions (SELs) (≤ 30mm in size) has increased** with wide use of endoscopy.
  - Among patients who had health screening tests, 0.76% of them had SELs
  Lim YJ, et al, World J Gastroenterol 2010;16:439-444
- Most lesions are clinically insignificant. However, **some of the tumors have unexpected malignant potential** such as gastrointestinal stromal tumors (GISTs) and neuroendocrine tumors (NETs).
- Endoscopic ultrasonography (EUS) is the most valuable test for evaluating the SELs, however the accuracy is relatively low (46~48%). Furthermore, tissue sampling by EUS-FNA is technically difficult when target SMTs are small.
- We aimed to **analysis of prevalence of neoplastic lesions in small gastric SELs** undergoing surgical resection.

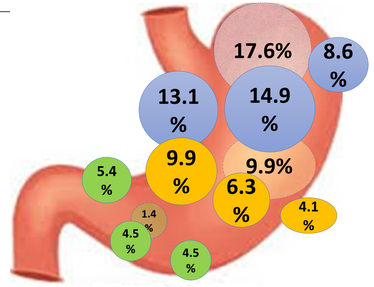
METHODS

- Between 2014 and 2022, **total of 222 surgically resected small** *(preoperatively measured as ≤30mm in size)* **gastric SELs in 220 patients were analyzed**
- **Three risk groups**
  : according to the tumor size, growing, high-risk features
  Group 1: <2cm with no risk features
  Group 2: <2cm with any risk features
  Group 3: ≥ 2cm

RESULTS

Clinical characteristics

	No. (%)
Age (years, mean±SD)	55.0 ± 13.6 (median 55, 12~84)
M : F	101 : 119
Comorbidities	88 (49.4)
BMI (kg/m^2, mean±SD)	24.6 ± 3.3
Tumor location (LMU)	
Upper	120 (54.1)
Mid	67 (30.2)
Low	35 (15.8)
Tumor location (APGC)	
Anterior	57 (25.7)
Posterior	64 (28.8)
Lesser	63 (28.4)
Greater	38 (17.1)
Tumor size (mm)	
EGD	21.8 ± 5.7 (medina 20, 9~40)
EUS	20.2 ± 5.0 (median 20, 7~30)



Operation methods for small gastric SELs

		No. (%)
Laparoscopic	**Standard Lap. wedge resection**	**165 (75.0)**
	Reduced port surgery	**47 (25.8)**
	2 port surgery	12 (5.5)
	Umbilical single port surgery	20 (11.2)
	Intragastric single port surgery	18 (8.2)
	Laparoscopic antrectomy	2 (0.9)
LECS	LAEFR	2 (0.9)
Open	Wedge resection	1 (0.5)

LECS, laparoscopic endoscopic cooperative surgery
LAEFR, laparoscopy assisted endoscopic full-thickness resection

Short-term surgical outcomes

		Mean ± SD
Gas out (POD)		2.1 ± 0.7
SOW (POD)		1.3 ± 0.7
Solid diet (POD)		1.9 ± 0.9
Length of hospital stay (days)		4.5 ± 1.8 (median 4, 2~18)
		No.(%)
Postoperative complications*		**6 (2.7%)**
Grade I	Gastric stasis	1
Grade II	Leak	1
	Abdominal bleeding	1
	UTI	1
Grade IIIa	Luminal bleeding	2

POD, postoperative day
Clavien-Dindo classification system

Incidence of potentially malignant lesions according to the risk groups

18.9%

Risk Group	No. (%)	GISTs				NETs (Grade 1)	Total
		Very low	low	intermediate	high		
Group 1	37 (16.7)	9 (24.3)	**6 (16.2)**	**1 (2.7%)**	0 (0.0)	0 (0.0)	**16 (43.2)**
Group 2	45 (20.3)	11 (24.4)	5 (11.1)	4 (8.9)	1 (2.2)	5 (11.1)	**26 (57.8)**
Group 3	140 (63.1)	13 (9.3)	56 (40.0)	9 (6.4)	7 (5.0)	2 (1.4)	**87 (62.1)**

Predictive factors for the gastric GISTs with intermediate or high risk

Factors	No. (%)	OR (95% CI)	*P*
Size ≥ 2cm	120 (67.4)	1.999 (0.532 – 7.506)	0.305
Growing	16 (9.0)	1.658 (0.332 – 8.288)	0.530
High risk features on EGD			
Ulceration / Surface depression	18 (10.1)	0.710 (0.085 – 5.943)	0.752
High risk features on CT			
Heterogeneous enhancement	10 (5.7)	2.599 (0.493 – 13.704)	0.260
High risk features on EUS			
Irregular border	6 (4.3)	5.814 (0.449 – 75.242)	0.178
Heterogeneous echogenecity	52(36.9)	0.401 (0.071 – 2.275)	0.302
Presence of echogenic foci	18 (12.8)	0.000	0.998
Presence of cystic space /necrosis	12 (8.5)	0.000	0.999

CONCLUSIONS

- **The incidence of neoplastic and potentially progressive lesions** were 43.2% and 18.9% in the very small (<2cm) gastric SELs with no high-risk features.
- Although it was relatively lower than those in the small SELs with risk, the absolute values are a matter for consideration.
- Therefore, ***even in small SELs, resection for definitive diagnosis and treatment needs to be considered***.