

Supplementary table 1: Tumor characteristics of the 85 patients with a submucosal esophageal adenocarcinoma.

Tumor location	
Mid esophagus, n (%)	3 (4%)
Distal esophagus, n (%)	57 (67%)
Gastro-esophageal junction, n (%)	19 (22%)
Cardia, n (%)	4 (5%)
Unknown, n (%)	2 (2%)
Clinical tumor staging, n (%)	
cT - stage	
cT0	3 (4%)
cT1	9 (11%)
cT2	22 (26%)
cT3	12 (14%)
cT4	2 (2%)
cTx^	37 (44%)
cN - stage	
cN0	65 (77%)
cN1	14 (17%)
cNx^^	6 (7%)
cM - stage	
cM0	66 (78%)
cMx^^	19 (23%)
Endoscopic tumor size before ER* median (range), mm	15 (5 – 35)
Pathological tumor size after esophagectomy** median (range), mm	25 (10 – 90)

Continuous data is presented as median, range. Categorical data as n (%).

*Endoscopic tumor size before ER is known in 23

** Pathological tumor size after esophagectomy known in 47

^ after ER or unknown

^^ missing data or unknown

Supplementary table 2: Interobserver agreement between three GI-pathologists, for the histological assessment of pT1b EAC in 52 patients. The histological parameters were established using desmin and pankeratin double staining.

Histological Parameter (continuous variable)	Specimen	n	Observed agreement (%)	ICC	95% CI
Submucosal invasion in μm	D&P-IHC	52	Na	0.753	(0.622 – 0.846)
	Corresponding H&E	52	Na	0.631	(0.488 – 0.753)
Total thickness of submucosa in μm	D&P-IHC	49	Na	0.683	(0.516 – 0.793)
	Corresponding H&E	51	Na	0.595	(0.429 – 0.731)

	ER - D&P-IHC	30	Na	0.703	(0.531 – 0.833)
	Surgical - D&P-IHC	19	Na	0.610	(0.359 – 0.808)
Histological Parameter (categorical variable)	Specimen	n	Observed agreement (%)	Fleiss Kappa	95% CI
Paris classification	D&P-IHC	52	75%	0.464	(0.317 – 0.611)
	Corresponding H&E	52	81%	0.610	(0.458 – 0.763)
Pragmatic classification	D&P-IHC	49	40%	0.373	(0.259 – 0.487)
	Corresponding H&E	51	42%	0.346	(0.233 – 0.459)
Combined histological characteristics*	D&P-IHC	52	85%	0.619	(0.462 – 0.776)
	Corresponding H&E	52	87%	0.655	(0.498 – 0.812)

D&P-IHC : desmin and pankeratin immunohistochemistry (double-staining), H&E: hematoxylin and eosin stained slides. Na: not applicable. ICC: intraclass correlation coefficient, ER: Endoscopic resection.

* Favorable: pT1a/sm1, G1/2, and no LVI vs. Unfavorable: pTsm2/3/pT2, or G3/4, or LVI.