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GLOBAL OUTCOMES OF ENDOSCOPIC SUBMUCOSAL DISSECTION FOR RESECTION OF LARGE COLORECTAL NEOPLASMS: AN INTERNATIONAL, MULTICENTER STUDY

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PURPOSE / OBJECTIVES

- Endoscopic submucosal dissection (ESD) has had limitations to gain acceptance due to the technical challenges and safety of the procedure.
- Piecemeal endoscopic mucosal resection (EMR) is favoured due to its perceived ease of performance and shorter learning curve.
- However, en bloc resection has been strongly advocated to lower the risk of local recurrence and for precise pathological assessment.
- Initially developed and mastered in east Asia, recent developments in technology and training opportunities have facilitated broader adoption of colorectal ESD.
- This study aims to report international, multicenter outcomes of colorectal ESD.

MATERIAL & METHODS

- Study type- Retrospective, multicenter (7 centers, 6 countries).
- Inclusion Criteria- Consecutive patients who underwent colorectal ESD for lesions greater than 20mm and with follow up.
- Primary outcomes- En bloc and R0 resection rate, delayed adverse events (delayed bleeding or perforation), and local recurrence rate.
- Secondary outcomes- Procedure time, lesion size, and pathological diagnosis.
- Methodology- Univariate and multivariate analysis were done to identify the risk factors for primary outcomes and to compare the Japanese and non Japanese outcomes.

RESULTS

Sample size- 717 patients (median size, 40(30-50) mm; location rectum 49.5%, left colon 23.1%, right colon 27.4%).

En bloc resection rate- 666(93.4%).

R0 resection rate- 652(91.7%).

Delayed bleeding- 19(2.6%). Managed endoscopically.

Delayed perforation- 6 patients. Surgical intervention.

Local recurrence rate- 22(3.2%).

Intramucosal carcinoma- 161(23.2%).

Lesser procedure time was a significant factor for successful en bloc and R0 resection and no recurrence (Table 1).

En bloc resection was an independent factor preventing local recurrence. (Odds ratio 0.096; 95% confidence interval 0.038-0.243; P<0.001)

Japanese vs non Japanese- Higher en bloc resection and reduced recurrence rates in Japanese group (Table 2).

Table 1: Summary of univariate analysis of outcomes.

	Factors	Variables		P value
En bloc resection rate		En bloc resection (n=670)	Piecemeal resection (n=47)	
	Procedure Time (median (IQR) minutes)	119.5 (60 – 180)	180 (122 – 240)	<0.001
	Lesion Size (median (IQR) mm)	40 (29 – 50)	40 (30 – 50)	0.525
Recurrence rate		No recurrence (n=695)	Recurrence (n=22)	
	Procedure Time (median (IQR) minutes)	105 (60 – 180)	150 (131.5 – 285)	<0.001
	Lesion Size (median (IQR) mm)	38 (28 – 50)	50 (30 – 57.5)	0.134
R0 resection rate		R0 resection (n=658)	No R0 resection (n=59)	
	Procedure Time (median (IQR) minutes)	120 (60 – 180)	150 (85 – 240)	0.003

Table 2: Comparison of outcomes between Japanese and non Japanese groups.

Variables		Japanese (N=119)	Non Japanese (N=598)	P value
En Bloc resection rate	N (%)	119 (100)	547 (92.1)	<0.001
Delayed Bleeding		1 (0.8)	18 (3)	0.226
Delayed Perforation		0 (0)	6 (1)	0.596
Overall Delayed Adverse Event		1 (0.8)	23 (3.8)	0.157
R0 resection rate		108 (90.8)	544 (91.9)	0.682
Recurrence rate		0 (0)	22 (4.8)	0.045

SUMMARY / CONCLUSION

- **This study with data from six countries shows favourable global outcomes for colorectal ESD.**
- **The low adverse event rate show increased safety internationally.**
- **There is only marginal room for improvement to reach Japanese standards, which can be possible by active inclination towards this procedure.**