

OUTCOMES OF PROPHYLACTIC CLOSURE FOR COLONIC ENDOSCOPIC SUBMUCOSAL DISSECTION: AN INTERNATIONAL, MULTICENTER STUDY

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PURPOSE / OBJECTIVES

- Colonic ESD has a delayed bleeding and perforation rate of 0.1-3.1% and 0.3-0.7% respectively.
- Prophylactic clip closure is beneficial to prevent delayed adverse events post colorectal ESD.
- Though there is no data that exclusively evaluates colonic defects which may be more high risk than rectal defects due to thinner wall and intra- peritoneal location.
- This study aims to determine the impact of prophylactic closure on outcomes of colonic ESD and evaluate various closure methods.

MATERIAL & METHODS

- Study type: Retrospective, multicenter.
- Period: April-October, 2024.
- Inclusion criteria: Consecutive patients undergoing ESD for resection of superficial colonic neoplasm.
- Exclusion criteria: Rectal, ileo cecal valve, and appendiceal orifice lesions, recurrent lesions, multiple lesions simultaneously treated, and lesions associated with inflammatory bowel disease.
- Methodology: Patients were allocated to closure and non closure groups which were compared using univariate analysis. Subgroup analysis was done to compare different closure methods.
- Primary outcomes: Delayed adverse events (bleeding & perforation), duration of hospitalization.

SUMMARY / CONCLUSION

- Prophylactic closure of post colonic ESD defects reduces hospitalization time.**
- Most defects can be successfully closed by endoclips only.**
- X-tack is useful for larger defects.**
- 'CLiPS technique' is a quick, easy, and effective closure technique for closure of large defects.**

RESULTS

- Sample size: 271 (190 closure and 81 non closure).
- There were no significant differences in age, sex, location, patients using anticoagulants (Table 1).
- En bloc resection rate: 263/271 (97%)
- R0 resection rate: 204/271 (75.3%).
- The mean specimen size of the closure group was significantly higher (mean + SD 37.72 + 15.66 vs 32.66 + 10.99 mm, P= 0.003).
- There was no significant difference in adverse events (Table 2).
- Procedure time was higher in the closure group (median(IQR) 62(31.5-106.5) vs 37(25-57.75) minutes, P<0.001).
- Duration of hospitalization was lesser (median(IQR) 1(0-5) vs 4(1-6) minutes, P<0.001).
- Closure methods used were endoclips only (n=125), clip with line pulley securing (CLiPS) technique (n=54), X-tack (n=10), and overstitch (n=1).
- CLiPS technique was associated with shortest procedure time and X-tack could close significantly larger defects (**Table 3**).

Table 1. Patient characteristics and lesion location.

Variables			Closure (N=190)	Non closure (N=81)	P value
Age	Mean ± SD		63.5 ± 10.36	65.4 ± 11.92	0.211
Gender	Males	N (%)	92 (48.4)	32 (40)	0.205
	Females		98 (51.6)	48 (60)	
Anticoagulation Used	Yes		32 (16.8)	11 (13.6)	0.501
	No		158 (83.2)	70 (86.4)	
Location	Cecum		32 (16.8)	15 (18.5)	0.086
	Ascending Colon		81 (42.6)	22 (27.2)	
	Transverse Colon		31 (16.3)	14 (17.3)	
	Descending Colon		19 (10)	9 (11.1)	
	Sigmoid Colon		27 (14.2)	21 (25.9)	

Table 2. Procedural outcomes.

Variables			Closure (N=190)	Non closure (N=81)	P value
Intra procedural Perforation	Yes	N (%)	11 (5.8)	5 (6.2)	0.961
	No		162 (85.3)	68 (84)	
	Deep Muscle Injury		17 (8.9)	8 (9.9)	
Specimen Size (mm)	Mean ± SD		37.72 ± 15.66	32.66 ± 10.99	0.003
Delayed Bleeding	N (%)		2 (1.1)	0 (0)	1
Delayed Perforation			4 (2.1)	1 (1.2)	1
Total Delayed Adverse Events			6 (3.2)	1 (1.2)	0.678

Table 3. Closure technique details.

Variables		Endoclips only (N=125)	CLiPS (N=54)	X-tack (N=10)	P value
Procedure Time (minutes)	Median (IQR)	72 (39.5 – 109)	38 (24 – 57)	124.5 (110.5 – 164.5)	<0.001
Specimen Size (mm)	Mean ± SD	34.24 ± 12.89	40.47 ± 14.78	59.6 ± 25.61	<0.001