DID MY ANASTOMOSIS LEAK? COMPARING DUTCH LEAK SCORE AND COLON LEAKAGE SCORE FOLLOWING EMERGENCY COLORECTAL SURGERY, A COHORT STUDY. WITH INSIGHTS FROM A SYSTEMATIC REVIEW OF COLON LEAKAGE SCORE

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INTRODUCTION

Anastomotic leak following colorectal surgery- most dreaded complication

Incidence - 3% to 27%

Early detection paramount to reduce morbidity and mortality

Many predictive tools avaliable

Dutch Leak Score and Colon Leakage Score : Widely popular and Validated

OBJECTIVES

To evaluate utility of Dutch Leak Score (DULK) in predicting anastomotic leak following emergency colorectal surgery

To compare its effectiveness with Colon Leakage Score (CLS)

MATERIALS AND METHODS

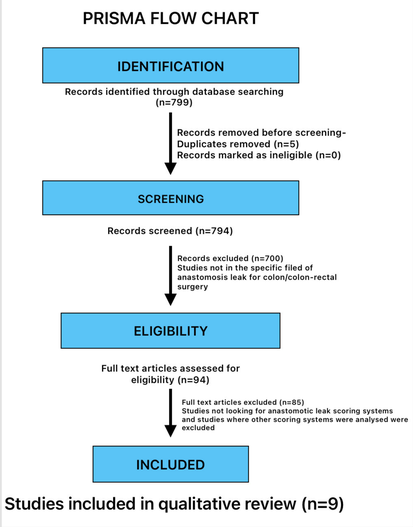
Single center prospective study- 103 patients

Inclusion: emergency colonic/colo-rectal anastamosis

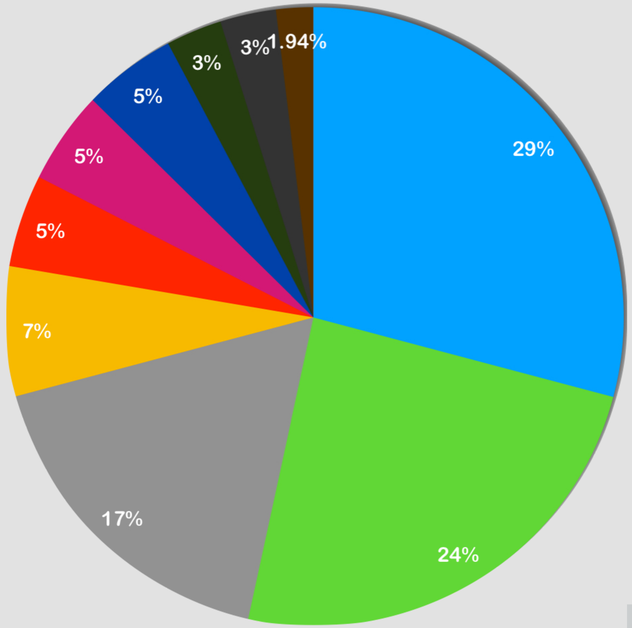
Exclusion : patients with a defunctioning stoma

DULK and CLS scores compared within group- Sensitivity, Specificity, PPV, NPV, Accuracy

Systematic review done on CLS and compared with DULK score of our study



RESULTS



- Sigmoid Volvulus
- Descending Colon/ Splenic flexure Cancer
- Right Colon cancer
- Strangulated Ing Hernia (Content- Large Bowel)
- Recto-Sigmoid Junction/ Upper rectum Cancers
- Diverticulitis
- Traumatic Colon Perforation
- Transverse Colon Cancer
- Colo-colic intussecption
- Post radiation large bowel gangrene

DULK SCORE		
SCORE	LEAK	NO LEAK
HIGH DULK SCORE	13	4
LOW DULK SCORE	1	85
TOTAL	14	89
TRUE POSITIVES	13	
TRUE NEGATIVES	85	
FALSE POSITIVES	4	
FALSE NEGATIVES	1	
SENSITIVITY	**92.9%**	
SPECIFICITY	**94.3%**	
POSITIVE PREDICTION VALUE	**76.4%**	
NEGATIVE PREDICTION VALUE	**98.8%**	

COLON LEAKAGE SCORE		
SCORE	LEAK	NO LEAK
HIGH CLS	12	11
LOW CLS	2	78
TOTAL	14	89
TRUE POSITIVES	12	
TRUE NEGATIVES	78	
FALSE POSITIVES	11	
FALSE NEGATIVES	2	
SENSITIVITY	**85%**	
SPECIFICITY	**87.6%**	
POSITIVE PREDICTION VALUE	**52.2%**	
NEGATIVE PREDICTION VALUE	**97.5%**	

SYSTEMATIC REVIEW COMPREHENSIVE TABLE OF CLS

	Study	Sample Size	Sensitivity (%)	Specificity (%)	PPV (%)	NPV%	Accuracy (%)
1	**Dekker et al. (2011)**	139	**83.3%**	**88.2%**	40%	98.2%	87.8%
2	**Yu et al. (2016)**	304	**84.6%**	**87.2%**	30.8%	97.4%	86.94
3	**Muñoz et al. (2018)**	180	**67%**	**89%**	30.7%	97.4	87.7%
4	**Yang et al. (2019)**	566	**65%**	**61%**	6.6%	97%	61%
5	**Albatanony et al. (2019)**	80	**66.7%**	**91%**	57%	94%	87.5%
6	**Rudiman et al. (2022)**	32	0%	16.6%	0%	71.3%	15%
7	**Venn et al. (2023)**	Systematic review	NA				
8	**Letchinko et al. (2024)**	Systematic review	NA				

DISCUSSION

DULK score has higher sensitivity, specificity,PPV and NPV than CLS in the present study

CLS is static, pre and intraop; DULK is dynamic and post-operative

DULK score values are better when compared with systematic review of CLS

DULK score viable tool in emergency colonic/ colo-rectal anastomosis

CONCLUSIONS

DULK score is a viable predictor of leak in emergency colorectal surgeries

CLS helps in intra-operative decision making

Complementary use of these two scores- ?potential scope for research in coming future

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