FINAL ID: M15

TITLE: Surgically Relevant Thresholds for the Short Inflammatory Bowel Disease Questionnaire (sIBDQ) in Crohn's Disease

ABSTRACT BODY:

Purpose/Background: Despite interest in patient-reported outcome scores to track progression in Crohn's Disease, frameworks to incorporate them into the surgical decision-making process are lacking. The sIBDQ is a validated measure of IBD-specific quality of life (QoL). The primary aim of this study was to establish surgically-relevant sIBDQ threshold scores: 1) a 'resection red zone' suggesting poor QoL that would likely benefit from surgical intervention, and 2) a 'nonoperative green' zone suggesting continued medical management. Scores between 'resection red' and 'nonoperative green' zones were assigned to an 'indeterminate yellow' zone. The secondary aim was to determine whether lower QoL scores is associated with Crohn's-related bowel resection when controlling for phenotype variation. We hypothesized that lower sIBDQ score is associated with bowel resection in adjusted analysis.

Methods/Interventions: All adult Crohn's Disease patients completing an sIBDQ between 2020-2022 were stratified into Crohn's-related bowel resection within 90 days of sIBDQ completion versus medical management. Surgically-relevant score thresholds were established using standard anchor- and distribution-based methods. To identify 'resection red' zone candidates, we calculated the 25th percentile score among the bowel resection group, and the threshold with at least 85% specificity while maximizing sensitivity in receiver operating characteristic (ROC) analysis. Similar calculations yielded the 'nonoperative green' zone: the 75th percentile score among the medical management group, and the threshold with at least 85% sensitivity while maximizing specificity in ROC analysis. In adjusted analysis, logistic regression assessed the effect of sIBDQ score when controlling for disease phenotype on the outcome of subsequent bowel resection.

Results/Outcomes: Over 2.5 years, 2003 patients were included with 102 (5.0%) undergoing Crohn's-related bowel resections. The sIBDQ 'nonoperative green zone' threshold ranged from 57 to 62 and the 'resection red zone' ranged from 39 to 40. There were 271 patients below the 'resection red' and 906 patients above the 'nonoperative green' zones. When comparing across red vs yellow vs green zones, there were differences in sIBDQ scores (mean (SD), 33 (5) vs 50 (5) vs 63 (3), $p<0.001$), bowel resection frequency (12% vs 6.8% vs 1.5%, $p<0.001$), and Harvey Bradshaw Index (HBI) Scores (mean (SD),10.0 (4.9) vs 5.1 (3.4) vs 1.8 (2.1), $p<0.001$). When controlling for age, sex, BMI, medications, disease pattern and location, resection history, and HBI, lower sIBDQ scores remained associated with 90-day bowel resection (OR 0.95 (95% CI 0.92, 0.97; $p<0.001$)).

Conclusions/Discussion: This study generated clinically meaningful QoL thresholds based on existing surgical decision-making patterns, providing a framework for both clinicians and patients considering bowel resection for Crohn's disease.

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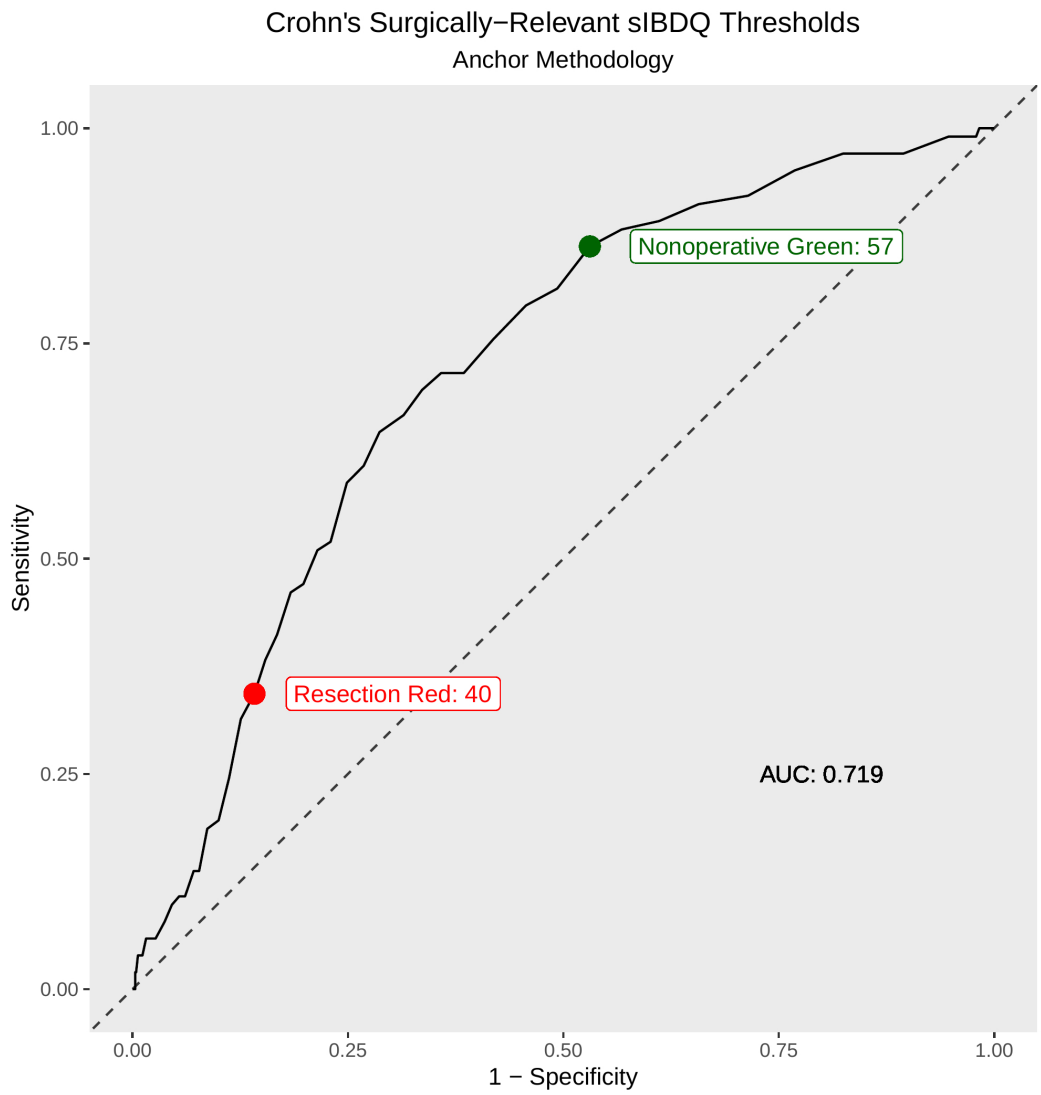

Figure 1: Surgically-relevant threshold scores for the short inflammatory bowel disease questionnaire. 'Resection red' and 'nonoperative green' thresholds identified through receiver operating characteristic curve analysis

IMAGE CAPTION: Figure 1: Surgically-relevant threshold scores for the short inflammatory bowel disease questionnaire. 'Resection red' and 'nonoperative green' thresholds identified through receiver operating characteristic curve analysis

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FINAL ID: M16

TITLE: Long-Term Outcome of the Kono-S Anastomosis. A Multicenter Study

ABSTRACT BODY:

Purpose/Background: Postoperative recurrence remains a significant problem in Crohn's disease (CD) despite improvement in medical therapy. The mesentery has been identified as a major culprit in disease recurrence. The Kono-S anastomosis was designed to exclude the mesentery from the anastomotic lumen, to limit luminal distortion and to preserve innervation and vascularization with excellent results in terms of safety and prophylaxis of disease recurrence. The aim of this multicenter study is to review the postoperative and long term outcomes of the Kono-S anastomosis in a large series of consecutive unselected CD patients.

Methods/Interventions: Consecutive CD patients undergoing resection and Kono-S anastomosis at four academic medical centers were included in a prospective database and retrospectively reviewed. Patients were excluded if an anastomosis was not performed. Recurrence was defined as endoscopic (Rutgeerts >i2a), clinical, laboratory (postoperative CRP and Fecal Calprotectin), and surgical including endoscopic intervention on the anastomosis.

Results/Outcomes: Between May 2010 and June 2022, 184 consecutive CD patients underwent restoration of intestinal continuity via a Kono-S anastomosis at four major academic institutions. Demographics and disease characteristics are listed in table 1. The mean duration of disease at the time of surgery was 145.8 months and 78 patients (42.4%) had previous surgery for CD. There were 32 patients (17.8%) actively smoking at the time of surgery and 99 (53.8%) were on biologic therapy. Anastomotic failure occurred in 3 cases (1.6%) with 2 patients requiring return to the operating room (1.1%). In addition 14 patients had a Surgical Site Infection (SSI) (7.7%). With a median follow-up of 25 months, clinical recurrence was reported in 49 patients (26.6%), endoscopic in 8 (11.3%), laboratory in 8 (13.3%) by elevated CRP and 4 (23.5%) by elevated Calprotectin, and finally surgical recurrence in 3 requiring endoscopic intervention on the anastomosis (2.5%) and in 9 requiring surgery involving the anastomosis (6.3%). In the bivariate analysis only the presence of postoperative SSI was associated with surgical recurrence involving the anastomosis

Conclusions/Discussion: This is the largest series of consecutive, unselected Kono-S anastomoses reported to date. Our cohort showed a very low anastomotic failure and SSI rates despite the complexity of the patient population. The overall very low recurrence rates noted in our series is in part due to the intrinsic advantages of the anastomotic configuration, but also to the low septic complications, a known risk factor for postoperative recurrence. In conclusion the Kono-S anastomosis in experienced hands is a safe and reliable anastomotic technique with low complications and recurrence rates.

(no table selected)

	Overall (N=184)
Age, years - mean (SD)	40.7 (15.7)
Sex	
Female	83 (45.1%)
Male	101 (54.9%)
BMI	24.4 (5.8)
WBC	8.8 (3.1)
Hemoglobin	12.5 (2.0)
Albumin	3.8 (0.6)
HTN	16 (11.9%)
DM	2 (1.5%)
History of DVT/PE	3 (2.2%)
Currently on blood thinners	9 (6.7%)
Weight loss: >10% of body weight within past year	18 (18.9%)
Current smoker	32 (17.8%)
On biologics	99 (54.1%)
Immunomodulators	41 (28.1%)
Currently on TPN	23 (17.6%)
Age at diagnosis	25.9 (11.7)
Age at surgery	38.2 (14.9)
Duration of disease (months)	145.8 (141.2)
Perianal disease	39 (27.7%)
Previous abdominal surgery	78 (55.7%)
Diversion	
Current	8 (5.9%)
Never	122 (89.7%)
Previously	6 (4.4%)
Elective/Urgent/Emergent	
Elective	157 (85.8%)
Urgent	26 (14.2%)
Surgical approach	
Lap	127 (69.4%)
Open	53 (29.0%)
Robot	3 (1.6%)
Number of resections	
1	120 (88.2%)
2	14 (10.3%)
3	2 (1.5%)
Fecal diversion	8 (7.0%)
EBL (ml)	157.8 (156.8)
Duration of surgery (min)	227.1 (90.1)

IMAGE CAPTION:

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FINAL ID: M17

TITLE: Duodenal Crohn's Disease: Location Dictates Operation

ABSTRACT BODY:

Purpose/Background: Surgical management of duodenal Crohn's disease (CD) is rarely described, and operative options include bypass, stricturoplasty, or resection. What factors dictate operation selection and whether differences exist in outcomes is unknown. We aimed to analyze what factors dictate operation choice and to assess differences in short and long-term outcomes after surgery for duodenal CD.

Methods/Interventions: A retrospective review was conducted of all patients who underwent operative intervention for symptomatic duodenal CD between January 2000 and March 2021 at one of three tertiary care inflammatory bowel disease referral centers. Operations were classified as either bypass (gastrojejunostomy or duodenojejunostomy), stricturoplasty, or duodenal resection. The site of most proximal duodenal involvement (proximal=pylorus and duodenal bulb, mid=2nd and 3rd portion, distal=4th portion), operative characteristics, 30-day postoperative outcomes, and the need for future endoscopic intervention or surgery for duodenal CD were collected. Univariate comparisons between the operation types were performed.

Results/Outcomes: 40 patients (55% female) with a median age of 46 years (interquartile range [IQR], 31-59.5) had a bypass (n=26; 65%), stricturoplasty (n=8; 20%), or resection (n=6; 15%). Median age of diagnosis of CD was 23.5 years (IQR, 17-40.5), and over half of the patients had undergone prior surgery for CD (58%). Nearly half of patients (48%) were on a biologic agent before surgery, while patients were less often on immunomodulators (23%) or steroids (15%).

Operation type varied by the most proximal extent of duodenal involvement. Patients with proximal duodenal CD underwent bypass operations more commonly than those with mid- or distal duodenal disease (p=0.03). All operations were performed open except for four bypasses. Patients who underwent duodenal stricturoplasty more often required concomitant operations for other sites of small bowel or colonic CD (63%) compared to those who underwent bypass (39%) or resection (33%). Infectious complications occurred after 30% of operations, but none were anastomotic complications from the area of duodenal CD. No patients required subsequent surgery for duodenal CD at a median follow-up of 2.8 years, but two patients required endoscopic dilation (n=1 after stricturoplasty, n=1 after resection). Patients who underwent stricturoplasty (75%) and resection (100%) remained on maintenance medication for CD more often than those who had a bypass performed (54%) (p=0.09).

Conclusions/Discussion: Patients who require surgery for duodenal CD appear to represent a subset of patients with a more severe CD phenotype, represented by a younger age of diagnosis and a high rate of prior resection for CD. Choice of operation varied by proximal extent of duodenal CD, but all choices resulted in durable long-term avoidance of further surgery for duodenal CD.

(no table selected)

	Bypass (n=26)	Stricturoplasty (n=8)	Resection (n=6)	*p*-value
Most proximal extent of duodenal involvement, n (%)				0.03
Proximal	11 (42)	2 (25)	0 (0)	
Mid	15 (58)	5 (63)	4 (67)	
Distal	0 (0)	1 (13)	2 (33)	
30-day infectious complications	6 (23)*	5 (63)	1 (17)	0.09
Superficial SSI	2	2	1	
Urinary tract infection	3	0	0	
Blood stream infection	2	0	0	
Cholangitis	0	1	0	
Intra-abdominal abscess	1	2	0	
Long-term CD medications	14 (54)	6 (75)	6 (100)	0.09
Biologic alone	6	5	4	
Biologic + immunomodulator	5	0	0	
Immunomodulator alone	3	1	2	

*Some patients experienced more than one infectious complication

Crohn's Disease Location, 30-day Complications, and Long-term Medication Use by Operation Performed

IMAGE CAPTION: Crohn's Disease Location, 30-day Complications, and Long-term Medication Use by Operation Performed

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