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Proposal for First-Line Surgery in Crohn's Disease

Criterion	Details
Age	≥ 16 years
Surgical risk	Low surgical risk
Location and extent	Ileal or ileocecal location with short extension
Disease phenotype	Inflammatory or non-complicated stricturing phenotype
Surgical history	No previous intestinal surgeries
Patient preference	Wishes to avoid long-term medical therapy or its side effects
Contraindication to anti-TNF	Present
Absolute or relative contraindications to immunosuppression	History of active or recent malignancy, uncontrolled HIV infection, or primary immunodeficiency disorders.
Reluctance to adverse effects of medical therapy	Patient reluctant to immunosuppressive or biologic therapy
Multidisciplinary assessment	Approved by treating multidisciplinary team
Exclusion factors	Active smoker, fistulizing or penetrating phenotype, extensive disease, prior surgery

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First-line surgery in Crohn's disease: who benefits and when?

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Abstract

Crohn's disease (CD) patients often require surgery due to complications such as strictures or fistulas. While historically reserved as a last resort, emerging data suggest that early ileocecal resection (EICR) may provide long-term benefits in selected patients, including reduced need for biologics and lower relapse rates. Identifying which patients

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are ideal candidates for first-line surgery remains a clinical challenge, but recent studies point toward improved outcomes when surgery is performed in early, localized disease.

Key words: Crohn's disease. Surgery. Primary ileocecal resection.

Introduction

Crohn's disease (CD), a type of inflammatory bowel disease (IBD), can affect any segment of the gastrointestinal tract, although the ileocecal region (L3 disease) is the most involved site (1). Approximately one-third of patients present with disease limited to the ileocecal area. The clinical course of CD is highly variable, frequently progressing to stenosing and penetrating complications, which increases the need for surgical interventions and significantly impacts patients' quality of life (QoL) (1). Surgical resection is often inevitable during the disease course. While earlier studies reported that 20–40% of patients required surgery within the first year after diagnosis and 30–70% within ten years (2), more recent population-based data indicate a decreasing trend in surgical rates over time, likely reflecting the impact of modern therapeutic strategies (3). However, surgery remains common and necessary in many cases, particularly for stricturing or penetrating complications, as highlighted in the Spanish EpidemIBD cohort (4).

Although surgery has traditionally been considered a last resort in CD management, it is not inherently negative. Emerging evidence from studies such as LIR!C (Laparoscopic Ileocecal Resection vs Infliximab for Terminal Ileitis in Crohn's Disease) (5) and Agrawal et al. (6) suggests that early ileocecal resection (EICR) in appropriately selected patients with localized distal ileal (L1) or ileocecal (L3) disease (Figure 1) may lead to improved long-term outcomes, reduce the risk of disease-related complications, and decrease the cumulative burden of medical therapy (5,6).

However, implementing early surgical intervention in clinical practice remains a challenge. Patient reluctance to undergo surgery during the early stages of Crohn's disease is common, often due to concerns about invasiveness and long-term outcomes. Furthermore, there is still no clear consensus or reliable predictive markers to accurately identify which patients are most likely to benefit from early surgical treatment.

Methodology

This narrative review aims to synthesize the existing evidence on the role of early ileocecal resection (EICR) as first-line treatment for localized ileocecal Crohn's disease. A non-systematic search was conducted in PubMed, Scopus, and Google Scholar databases until May 2025. Search terms included "Crohn's disease," "early ileocecal resection," "EICR," "anti-TNF," "biologic therapy," and "initial medical therapy (IMT)." Original studies that directly compared early surgical strategy with initial medical treatment in ileal or ileocecal Crohn's disease were prioritized, including clinical trials, observational studies, meta-analyses, and systematic reviews. Articles were selected by consensus by the authors, considering their clinical relevance, potential impact on medical practice, and overall methodological quality. In addition, key studies evaluating economic aspects, quality of life, postoperative complications, and predictors of recurrence were included.

I. Therapeutic Strategies

I.a. Initial medical therapy (IMT)

Early and effective treatment of CD is essential to prevent disease progression and enhance long-term outcomes. Advances in IMT (IMT), particularly the use of immunosuppressants and biologics have fostered a conservative approach in managing CD. Anti-tumor necrosis factor (anti-TNF) therapy is central to treat moderate to severe

CD (7,8). SONIC trial demonstrated that early use of infliximab, particularly in combination with azathioprine, was more effective than either agent alone in inducing and maintaining remission in patients with moderate to severe CD (9). Currently, a "top-down" strategy utilizing biological therapy as the first line is preferred, yielding better remission rates and reducing steroid use (10).

However, although population-based data suggest that timely initiation of medical treatment may reduce surgical intervention rates, prolonged IMT may simply delay an inevitable surgery (2). Bouguen and Peyrin-Biroulet emphasized that biologics may reduce the rate but do not eliminate the need for surgery entirely (11). More recently, a large population-based study has shown that while the annual rate of bowel resections in CD has decreased in the biologics era, the proportion of surgeries performed for obstructive indications has increased significantly. This suggests that although IMT may delay surgery, its ability to prevent surgery, particularly for stricturing disease, remains limited (12).

I.b. Evidence Supporting Early Bowel Resection (EICR)

Traditionally, surgical treatment is advised for complicated CD cases (e.g., strictures, fistulas) or patients who are refractory to IMT. Nonetheless, interest in EICR has increased (13). Recent evidence suggests that early surgical intervention in Crohn's disease is safe, with low morbidity and mortality, particularly when minimally invasive techniques are employed. These advances, combined with perioperative protocols, have led to faster recovery and fewer complications. Furthermore, surgery performed at early stages reduces the risk of extensive resections and complications (14).

In the LIR!C randomized trial, laparoscopic ileocecal resection achieved quality-of-life improvements comparable to infliximab after one year in patients with limited and non-stricturing ileocecal Crohn’s disease (5). In addition, a retrospective long-term follow-up (median 5 years) of LIR!C participants revealed that most patients in the surgical arm did

not require additional medical or surgical therapy, while 48% of those in the infliximab arm eventually underwent surgery and the rest continued on biologic treatment (15). The LIR!C trial has been criticized for limited generalizability due to methodological flaws, including lack of blinding, short follow-up, narrow patient selection, and minimal assessment of inflammatory control (16).

A meta-analysis by Ryan ÉJ et al., encompassing seven studies with 1,863 patients with ileocolonic CD, suggested that EICR might be associated with fewer relapses and a decreased need for biological therapy compared to IMT (17). Similarly, a meta-analysis by Husnoo N. et al., involving eight studies with 1,867 patients with ileocolonic CD, demonstrated a reduced need for pharmacological treatment in the EICR group. Five-year intestinal resection rates were 7.8% in the EICR group versus 25.4% in the IMT group (OR = 0.32; 95% CI: 0.19–0.54; $p < 0.0001$). These results were consistent in subgroup analyses of patients with distal ileal or ileocecal CD (18). Limitations of these systematic reviews include the heterogeneity of the included studies and the predominance of observational studies, where EICR was sometimes conditioned by complicated disease phenotypes (stenosing-penetrating) and some studies included other disease locations (see Table 1).

Both American and European guidelines support considering early EICR as an alternative to IMT for localized CD, particularly in the terminal ileum-ileocecal area (19,20). The precise mechanism by which EICR promotes sustained remission is not yet fully understood, but it is hypothesized that resection of chronically inflamed bowel and associated mesenteric fat may alter disease trajectory, mitigating long-term intestinal damage (21). In this sense, EICR may function as an effective "top-down" therapeutic approach by eliminating the source of inflammation early in the disease course.

On the other hand, the impact of surgery on quality of life and psychosocial well-being, particularly among younger patients, must be carefully considered, including potential effects on body image, sexuality, and professional activity. These aspects should be discussed during shared decision-making.

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I.c. Surgical Technique

Laparoscopic ileocecal resection is the preferred surgical approach in early Crohn's disease due to its association with reduced postoperative morbidity and faster recovery. Minimally invasive techniques, especially laparoscopy, have demonstrated benefits in terms of shorter hospital stays, lower complication rates, and improved cosmetic outcomes compared to open surgery (22). Following ileocecal resection for Crohn's disease, standard techniques include side-to-side, end-to-end, end-to-side, and Kono-S anastomosis. The SuPREMe-CD trial demonstrated medium- and long-term benefits of the Kono-S anastomosis compared with conventional side-to-side anastomosis (23). However, recent evidence has not shown significant differences between the two techniques (24, 25). Therefore, further studies are needed to consider switching from conventional side-to-side anastomosis (Figure 1).

II. Early Bowel Resection May Lower Health Care Costs?

Beyond clinical outcomes, economic analyses support the potential of EICR to lower overall healthcare expenditures. This is particularly relevant in systems where prolonged use of high-cost biologics poses sustainability challenges. However, comparative studies on the cost-effectiveness of EICR versus IMT in the context of biosimilars remain limited.

It is widely recognized that CD, as a chronic lifelong condition, incurs substantial healthcare costs, predominantly driven using biological therapies (26). There is evidence suggesting that early surgery may reduce long-term healthcare costs. A health economics analysis from the LIR!C trial demonstrated that patients undergoing early ileocecal resection had lower direct healthcare costs and gained more quality-adjusted life years (QALYs) compared to those receiving infliximab (27). Additionally, other

studies have corroborated that most postoperative costs are medication-related, suggesting that early surgical resection could be a more cost-effective strategy in well-selected patients (26). Nonetheless, additional research is needed to evaluate the cost-effectiveness of biosimilars to reach a definitive conclusion.

III. Long-Term Impact of EICR

Despite the evidence, the long-term impact of early resection for localized CD remains largely unexplored in real-world settings. In the study by Agrawal et al., utilizing a population-based cohort (1,279 patients), compared long-term outcomes of EICR (uncomplicated disease) versus anti-TNF therapy. The authors reported a 33% lower risk of a composite outcome (hospitalization, repeat CD-related surgery, corticosteroid exposure, and perianal CD) in the ileocecal resection group compared to primary anti-TNF therapy. Approximately half of the patients who underwent ileocecal resection did not require treatment five years post-surgery (6). Understanding the biological and clinical characteristics of these patients who remained treatment-free long-term is essential, as this could help identify those most likely to benefit from early surgical intervention and guide personalized therapeutic strategies.

In a multicenter retrospective study by Avellaneda et al. (LATAM study), postoperative outcomes following EICR were compared between patients with luminal CD (early strategy) and complicated CD (strictures-fistulas). The decision to perform EICR was based on a multidisciplinary evaluation, considering factors such as insufficient response to conventional medical treatment and patient preferences. Importantly, many of these patients had received prior medical therapies and the exact interval from diagnosis to surgery was not specified in this study. However, a longer disease duration before surgery was observed to be associated with worse postoperative outcomes (28). Recent evidence also highlights that surgical delay may increase early postoperative complication rates. A retrospective cohort study by Gómez Díez et al., showed that

prolonged disease duration prior to surgery was associated with higher recurrence and complication rates, reinforcing the value of timely intervention (29).

IV. Defining the Optimal Timing for Primary Surgery

Determining the optimal timing for primary surgery in patients with luminal ileocecal CD (inflammatory phenotype) remains challenging, as no universally accepted definition exists. Historically, surgery was considered “early” if performed within the first year of diagnosis. However, disease progression from luminal inflammation to stricturing or penetrating lesions does not occur uniformly among patients. Some may develop early complications requiring immediate surgical intervention, but not necessarily EICR (30).

Despite growing evidence supporting EICR as an alternative to medical treatment for distal ileal or ileocecal CD, its implementation in routine clinical practice remains a challenge. To address this discrepancy, Husnoo et al. will conduct a multicenter study exploring the views of both patients and physicians on the use of bowel resection instead of conventional medical treatment. The results of this study could contribute to clarifying the gap between evidence and clinical practice, providing useful information for the design of future clinical trials (37). Table 2 presents a comparison between EICR and IMT.

Conclusion

In summary, increasing evidence supports EICR as a viable first-line alternative to biologics in patients with localized luminal Crohn’s disease. This strategy may provide long-term remission, reduce therapy burden, and possibly lower costs. In Table 3 we describe our proposal on which patients are eligible for first-line surgery in CD. The approach should be considered within a multidisciplinary framework, favoring young patients with inflammatory phenotype and no prior surgeries or contraindications. Future studies should aim to refine patient selection criteria and evaluate real-world

outcomes in diverse healthcare settings.

References.

1. U Ahmed Ali, Ravi P Kiran, Surgery for Crohn's disease: upfront or last resort?, Gastroenterology Report, Volume 10, 2022, goac063, https://doi.org/10.1093/gastro/goac063.
2. Moum B, Ekbom A, Vatn MH, et al. Clinical course during the 1st year after diagnosis in ulcerative colitis and Crohn's disease. Results of a large, prospec- tive population-based study in Southeaster Norway, 1990–93. Scand J Gastroenterol 1997; 32: 1005–12.
3. Musallam, Rami; Rahman, Syed Hamaad; Shweikeh, Faris; Daaboul, Rania; et al. S969. Risk of Surgery for Inflammatory Bowel Diseases Has Decreased Over Time: A Systematic Review and Meta-analysis of Population-Based Studies. The American Journal of Gastroenterology 118(10S):p S730, October 2023. DOI: 10.14309/01.ajg.0000953516.17714.54.
4. Chaparro M, Barreiro-de Acosta M, Benítez JM, Cabriada JL, et al. EpidemIBD study group of GETECCU. EpidemIBD: rationale and design of a large-scale epidemiological study of inflammatory bowel disease in Spain. Therap Adv Gastroenterol. 2019 May 21;12:1756284819847034. doi: 10.1177/1756284819847034. PMID: 31205485; PMCID: PMC6535735.
5. Ponsioen CY, de Groof EJ, Eshuis EJ, et al. Laparo- scopic ileocaecal resection versus infliximab for terminal ileitis in Crohn's disease: a randomised controlled, open- label, multicentre trial. Lancet Gastroenterol Hepatol 2017;2:785–792.
6. Agrawal M, Ebert AC, Poulsen G, et al. Early Ileocecal Resection for Crohn's Disease Is Associated With Improved Long-term Outcomes Compared With Anti-Tumor Necrosis Factor Therapy: A Population-Based Cohort Study.

Gastroenterology. 2023 Oct;165(4):976-985.e3. doi: 10.1053/j.gastro.2023.05.051. Epub 2023 Jun 13. PMID: 37321356; PMCID: PMC10527197.

7. Torres J, Mehandru S, Colombel JF, et al. Crohn's disease. Lancet 2017;389:1741–1755.
8. Agrawal M, Spencer EA, Colombel JF, et al. Approach to the management of recently diagnosed inflammatory bowel disease patients: a user's guide for adult and pediatric gastroenterologists. Gastroenterology 2021;161:47–65.
9. Colombel JF, Sandborn WJ, Reinisch W, et al. Infliximab, azathioprine, or combination therapy for Crohn's disease. *N Engl J Med*. 2010;362(15):1383–95. doi:10.1056/NEJMoa0904492.
10. Noor NM, Lee JC, Bond S, et al. PROFILE Study Group. A biomarker-stratified comparison of top-down versus accelerated step-up treatment strategies for patients with newly diagnosed Crohn's disease (PROFILE): a multicentre, open-label randomised controlled trial. Lancet Gastroenterol Hepatol. 2024 May;9(5):415-427. doi: 10.1016/S2468-1253(24)00034-7. Epub 2024 Feb 22. PMID: 38402895; PMCID: PMC11001594.
11. Bouguen G, Peyrin-Biroulet L. Surgery for adult Crohn's disease: what is the actual risk? Gut. 2011 Sep;60(9):1178-81. doi: 10.1136/gut.2010.234617.
12. Fansiwala K, Spartz EJ, Roney AR, Kwaan MR, et al. Increasing Rates of Bowel Resection Surgery for Stricturing Crohn's Disease in the Biologic Era. Inflamm Bowel Dis. 2025 Apr 10;31(4):935-943. doi: 10.1093/ibd/izae113. PMID: 38795051; PMCID: PMC11985397.
13. Bashir NS, Walters TD, Griffiths AM, et al. Cost-effectiveness and clinical outcomes of early anti-tumor necrosis factor-a intervention in pediatric Crohn's disease. Inflamm Bowel Dis 2020;26:1239–1250.
14. Kelm M, Germer CT, Schlegel N, Flemming S. The Revival of Surgery in Crohn's Disease-Early Intestinal Resection as a Reasonable Alternative in Localized Ileitis. Biomedicines. 2021 Sep 26;9(10):1317. doi: 10.3390/biomedicines9101317.

15. Stevens TW, Haasnoot ML, D'Haens GR, et al. Laparoscopic ileocaecal resection versus infliximab for terminal ileitis in Crohn's disease: retrospective long-term follow-up of the LIR!C trial. Lancet Gastroenterol Hepatol. 2020;5(10):900–7. https: //doi.org/10.1016/S2468 - 1253 (20)30117 - 528.
16. https://www.escp.eu.com/research/paper-of-the-month/1538-laparoscopic-ileocaecal-resection-versus-infliximab-for-terminal-ileitis-in-crohn-s-disease.
17. Ryan ÉJ, Orsi G, Boland MR, Syed AZ, et al. Meta-analysis of early bowel resection versus initial medical therapy in patient's with ileocolonic Crohn's disease. Int J Colorectal Dis. 2020 Mar;35(3):501-512. doi: 10.1007/s00384-019-03479-9. Epub 2020 Jan 9. PMID: 31915984.
18. Husnoo N, Gana T, Hague AG, Khan Z, et al. Is early bowel resection better than medical therapy for ileocolonic Crohn's disease? A systematic review and meta-analysis. Colorectal Dis. 2023 Jun;25(6):1090-1101. doi: 10.1111/codi.16502. Epub 2023 Feb 28. PMID: 36727928.
19. Lichtenstein GR, Loftus EV, Isaacs KL, et al. ACG clinical guideline: Management of Crohn's disease in adults. Am J Gastroenterol. 2018;113(4):481–517. https://doi.org/10.1038/ajg.2018.27
20. Adamina M, Minozzi S, Warusavitarne J, Buskens CJ, et al. ECCO Guidelines on Therapeutics in Crohn's Disease: Surgical Treatment. J Crohns Colitis. 2024 Oct 15;18(10):1556-1582. doi: 10.1093/ecco-jcc/jjae089. PMID: 38878002.
21. Aggeletopoulou I, Tsounis EP, Mouzaki A, Triantos C. Creeping Fat in Crohn's Disease-Surgical, Histological, and Radiological Approaches. J Pers Med. 2023 Jun 21;13(7):1029. doi: 10.3390/jpm13071029. PMID: 37511642; PMCID: PMC10381426.
22. Sapci I, Gorgun E. Minimally Invasive Surgery in Complex Crohn's Disease. Clin Colon Rectal Surg. 2019 Jul;32(4):300-304. doi: 10.1055/s-0039-1683922. Epub 2019 Jul 2. PMID: 31275077; PMCID: PMC6606314.
23. Cricrì M, Tropeano FP, Rispo A, Miele A, et al. Impact of Kono-S anastomosis on quality of life after ileocolic resection in Crohn's disease: an analysis from the

SuPREMe-CD trial. Colorectal Dis. 2024 Jul;26(7):1428-1436. doi: 10.1111/codi.17073. Epub 2024 Jun 16. PMID: 38881241.

24. Tyrode G, Lakkis Z, Vernerey D, Falcoz A, Clairet V, Alibert L, Koch S, Vuitton L. KONO-S Anastomosis Is Not Superior to Conventional Anastomosis for the Reduction of Postoperative Endoscopic Recurrence in Crohn's Disease. Inflamm Bowel Dis. 2024 Oct 3;30(10):1670-1677. doi: 10.1093/ibd/izad214. PMID: 37776562.
25. Trencheva K, Spinelli A, Kienle P et al (2024) Postoperative endoscopic recurrence after resection of Crohn's terminal ileitis with Kono-S or side-to-site functional end anastomosis. Results A Multicent Prospect Randomized Trial 19th Congr Ecco 0020(jjad212):21–24
26. Park KT, Ehrlich OG, Allen JI, Meadows P, et al. The Cost of Inflammatory Bowel Disease: An Initiative From the Crohn's & Colitis Foundation. Inflamm Bowel Dis. 2020 Jan 1;26(1):1-10. doi: 10.1093/ibd/izz104. Erratum in: Inflamm Bowel Dis. 2020 Jun 18;26(7):1118. doi: 10.1093/ibd/izaa081.
27. de Groof EJ, Stevens TW, Eshuis EJ, et al. Cost-effectiveness of laparoscopic ileocaecal resection versus infliximab treatment of terminal ileitis in Crohn's disease: the LIR!C trial. Gut. 2019;68(10):1774–80. https://doi.org/10.1136/gutjnl-2018-317539.
28. SURGICAL IBD LATAM CONSORTIUM. Earlier surgery is associated to reduced postoperative morbidity in ileocaecal Crohn's disease: Results from SURGICROHN - LATAM study. Dig Liver Dis. 2023 May;55(5):589-594. doi: 10.1016/j.dld.2022.09.011. Epub 2022 Oct 28. PMID: 37113020.
29. Gómez Díez C, Varela Trastoy P, Mancebo Mata A, de Jorge Turrión MÁ, Tejedor-Tejada J. Intestinal resection in Crohn's disease. Impact of timing of surgery on postoperative complications and recurrence. retrospective cohort study. Rev Esp Enferm Dig. 2024 May 20. doi: 10.17235/reed.2024.10021/2023. Epub ahead of print. PMID: 38767034.

30. Maruyama BY, Ma C, Panaccione R, Kotze PG. Early Laparoscopic Ileal Resection for Localized Ileocecal Crohn's Disease: Hard Sell or a Revolutionary New Norm? Inflamm Intest Dis. 2021 May 19;7(1):13-20. doi: 10.1159/000515959. PMID: 35224013; PMCID: PMC8820134.
31. Aratari A, Papi C, Leandro G, et al. Early versus late surgery for ileo-caecal Crohn's disease. Aliment Pharmacol Ther. 2007;26(10):1303–12. https://doi. org/10.1111/j.1365-2036.2007.03515.x.
32. Latella G, Cocco A, Angelucci E, et al. Clinical course of Crohn's disease first diagnosed at surgery for acute abdomen. Dig Liver Dis. 2009;41(4):269–76. https://doi. org/10.1016/j.dld.2008.09.010.
33. Golovics PA, Lakatos L, Nagy A, et al. Is early limited surgery associated with a more benign disease course in Crohn's disease? World J Gastroenterol. 2013;19(43):7701–10. https://doi.org/10.3748/wjg.v19.i43.7701.
34. An V, Cohen L, Lawrence M, et al. Early surgery in Crohn's disease a benefit in selected cases. World J Gastrointest Surg. 2016;8(7):492–500. https://doi.org/10.4240/ wjgs.v8.i7.492.
35. Gerdin L, Eriksson AS, Olaison G, et al. The Swedish crohn trial: a prematurely terminated ran- domized controlled trial of thiopurines or open surgery for primary treatment of ileocaecal Crohn's disease. J Crohns Colitis. 2016;10(1):50–4. https://doi.org/10.1093/ecco-jcc/jjv184.
36. Kelm M, Anger F, Eichlinger R, et al. Early ileocecal resection is an effective therapy in isolated crohn's disease. J Clin Med. 2021;10(4):1–12. https://doi.org/10.3390/ jcm10040731.
37. Husnoo N, Wyld L, Lobo AJ, Morgan JL, et al. The patient and clinician perspective on 'early' bowel resection for terminal ileal Crohn's disease (EBRIC): protocol for a multicentre mixed-methods study. Colorectal Dis. 2025 Mar;27(3):e70042. doi: 10.1111/codi.70042. PMID: 40025798; PMCID: PMC11873672.

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Figure 1. Ileocecal resection in Crohn's disease

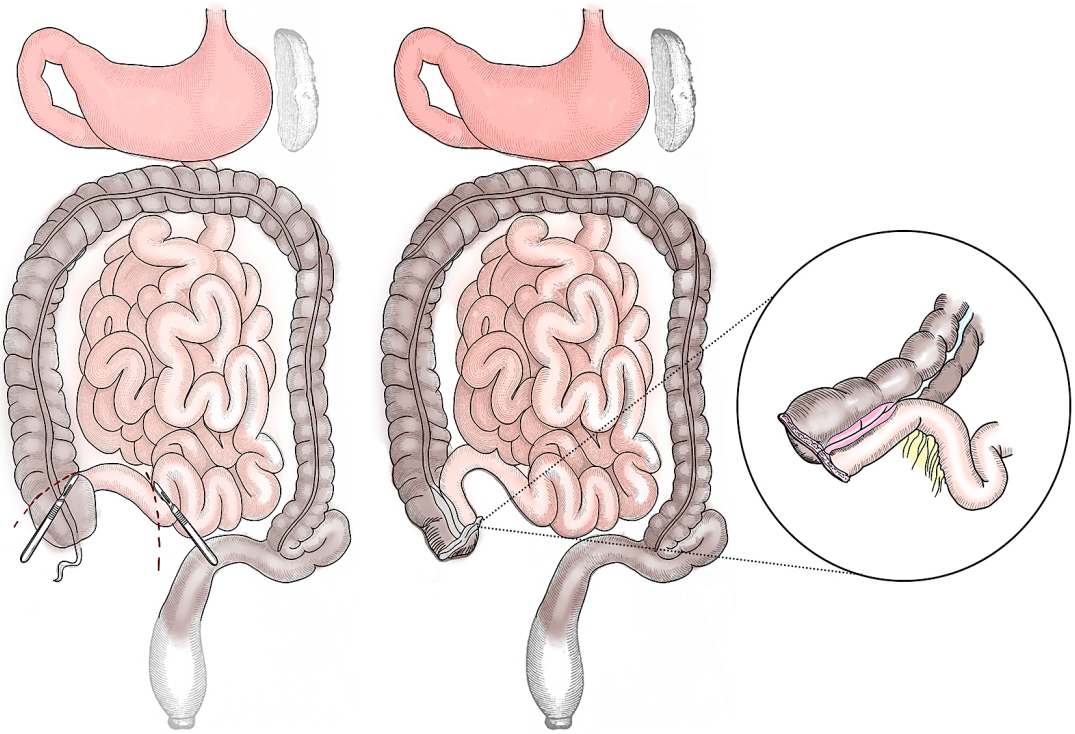

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Table 1. Overview of comparative studies in ileocecal Crohn's disease

Author (Year)	Study Type / Follow-up	Sample & Inclusion Criteria	EICR	Comparator	Key Outcomes	Outcomes data
Aratari (2007) (31)	Retrospective; median 147 mo	EICR patients	n=83	Delayed ICR (n=124)	Recurrence, further surgery, immunosuppressants	Surgery-free survival: p=0.006
Latella (2009) (32)	Retrospective; 1980–2005	New CD dx; acute abdomen	n=115	IMT (n=375)	Need for first resection, med therapy	Surgery rate: 29% vs. 53%, p<0.001
Goloivcs (2013) (33)	Retrospective; median 11.4 yrs	New CD diagnosis	n=63	IMT <1 yr (n=428)	Disease course, med exposure, repeat surgery	IMT exposure: 19% vs. 92%, p<0.001

An (2016) (34)	Retrospective; median 67–97 mo	Ileal/ileocecal CD	n=62	IMT / Delayed ICR (n=116)	Surgery recurrence, hospitalization, meds	Re-surgery: 6.4% vs. 24.1%, p=0.004
Gerdin (2016) (35)	RCT; 1, 3, 5 yrs	CD <1 yr, med-naïve	n=18	Infliximab + AZA (n=18)	CDAI, QoL (SF-36, VAS)	No significant QoL difference (p>0.05)
Ponsioen (2017) (5)	RCT; 12 mo	Active ileal CD, IMT ≥3 mo	n=73	Infliximab (n=70)	QoL, surgery, cost/QALY	QoL SF-36 delta: 14 vs. 15 (NS); Cost/QALY: €13,160 vs. €17,579
Stevens (2020) (15)	Retrospective; median 63.5 mo	Active ileal CD, IMT ≥3 mo	n=69	Infliximab (n=74)	Re-surgery, biologic use, QoL	Re-surgery: 6% vs. 48%, p<0.01
Kelm (2021) (36)	Retrospective; 2 yrs	EICR patients	n=29	Delayed ICR post-IMT (n=29)	IMT use, time to re-surgery	Need for IMT: 27% vs. 72%, p=0.003
Agrawal (2023)	Retrospective;	Ileal/ileocecal	n=581	Anti-TNF	Composite (hospital,	Event-free

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(6)	5 yrs	CD		(n=698)	steroids, surgery)	survival: 62% vs. 54%, HR 0.75, p<0.01

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Agrawal (2023) (6)	Retrospective; 5 yrs	Ileal/ileocecal CD		Anti-TNF (n=698)	Composite (hospital, steroids, surgery)	

Abbreviations: CD, Crohn's disease; EICR, Early Ileocecal Resection; ICR: Ileocecal Resection; IMT, Initial Medical Therapy; QALY, quality-adjusted life year; SF-36, SF, 36-item short form survey; CDAI, Crohn's Disease Activity Index; QoL, quality of life; RCT, randomized clinical trial, mo: months.

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Table 2. Comparison of Early Ileocecal Resection vs. Initial Medical Therapy in Crohn's Disease

Topic	EICR (Early Ileocecal Resection)	IMT (Initial Medical Therapy)
Clinical Remission	Higher rates in selected patients	Effective in many cases but may require optimization or switching
Risk of Complications	Lower risk if performed early; minimally invasive techniques reduce morbidity	Risk of infections, immunogenicity, and adverse events (e.g., lymphoma, TB)
Need for Ongoing Treatment	Often no further immunosuppressive therapy required post-surgery	Long-term maintenance often required, especially with biologics
Recurrence	Recurrence at anastomosis possible but often manageable	Risk of primary non-response or secondary loss of response
Quality of Life (QoL)	Comparable or improved (e.g. LIR!C trial)	Comparable if clinical remission achieved
Cost-Effectiveness	May be more cost-effective over time (saves on prolonged biologic use)	High cumulative cost of biologic therapy and monitoring.
Patient Acceptability	Often low due to surgery reluctance	Preferred by many patients

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Criterion	Details
Age	≥ 16 years
Surgical risk	Low surgical risk
Location and extent	Ileal or ileocecal location with short extension
Disease phenotype	Inflammatory or non-complicated stricturing phenotype
Surgical history	No previous intestinal surgeries
Patient preference	Wishes to avoid long-term medical therapy or its side effects
Contraindication to anti-TNF	Present
Absolute or relative contraindications to immunosuppression	History of active or recent malignancy, uncontrolled HIV infection, or primary immunodeficiency disorders.
Reluctance to adverse effects of medical therapy	Patient reluctant to immunosuppressive or biologic therapy
Multidisciplinary assessment	Approved by treating multidisciplinary team
Exclusion factors	Active smoker, fistulizing or penetrating phenotype, extensive disease, prior surgery

Table 3. Proposal for First-Line Surgery in Crohn's Disease

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