

## An Updated Review of Crohn's Disease

Paola Saskia Castañeda Anaya<sup>1</sup>, Carlos Ignacio Rafael Pérez<sup>2</sup>

<sup>1,2</sup> Unidad Médica De Alta Especialidad No. 25, Monterrey, Nuevo Leon

---

### ABSTRACT

Crohn's disease (CD) is a chronic inflammatory bowel disease characterized by transmural inflammation that can affect any part of the gastrointestinal tract. Its increasing incidence and prevalence worldwide underscore the significance of understanding its epidemiology and implications on public health. CD imposes a substantial burden on affected individuals, causing recurrent symptoms, complications, and reduced quality of life.

The theoretical framework of CD encompasses its definition, surgical treatment options, and potential complications. Surgical intervention remains a crucial aspect of disease management, with a majority of CD patients requiring surgery at some point during their lifetime. Bowel resection and stricturoplasty are commonly employed surgical techniques to address strictures and complications, aiming to preserve intestinal function and improve patient outcomes.

Complications, including disease recurrence and postoperative complications, pose challenges in the management of CD. Long-term follow-up and collaboration between medical and surgical teams are essential for optimizing patient care and outcomes.

The discussion emphasizes the multidisciplinary approach to CD management, involving gastroenterologists, surgeons, and nutritionists. Minimally invasive techniques and enhanced recovery protocols have improved patient experiences and outcomes.

Future research aims to enhance disease understanding, identify biomarkers for disease activity, and explore novel therapeutic targets to improve outcomes and quality of life for patients with CD.

In conclusion, CD represents a complex and challenging inflammatory bowel disease with significant implications for patients and healthcare systems. By integrating the theoretical framework, surgical management, and ongoing research efforts, healthcare professionals can optimize CD management and enhance patient outcomes.

---

### ARTICLE DETAILS

**Published On:**  
**11 August 2023**

**Available on:**  
<https://ijmscr.org/>

---

### INTRODUCTION

Crohn's disease (CD) is a chronic inflammatory bowel disease (IBD) characterized by transmural inflammation that can affect any part of the gastrointestinal tract. It is a complex and multifactorial condition that imposes a substantial burden on global health. The etiology of CD is not fully understood, but it is believed to result from an interplay between genetic susceptibility, environmental triggers, and dysregulation of the immune system.

The epidemiology of CD has shown a significant increase in incidence and prevalence over the past few decades, particularly in epidemiology

Western industrialized countries. However, there is a growing trend of CD becoming more prevalent in developing nations, suggesting a shifting global disease burden.

The highest incidence rates of CD are typically observed in North America and Europe, with estimates ranging from 20 to 30 cases per 100,000 individuals per year. In contrast, regions such as Asia, Africa, and South America traditionally reported lower incidence rates, but recent data suggest an upward trend in disease occurrence in these areas.

CD can affect individuals of any age, but it most commonly manifests during early adulthood, with a second peak of incidence observed in the sixth decade of life. There is no clear gender predilection, as both males and females are affected equally.

Genetic factors play a significant role in the pathogenesis of CD, and the disease has a strong familial component. Certain genetic variants, such as NOD2/CARD15 mutations, have been associated with an increased risk of developing CD.

Significance

## An Updated Review of Crohn's Disease

CD exerts a profound impact on the lives of affected individuals, with symptoms ranging from mild to severe and potentially debilitating. The chronic and relapsing nature of the disease leads to recurrent episodes of inflammation, causing a wide array of symptoms such as abdominal pain, diarrhea, weight loss, fatigue, and malnutrition.

The long-term consequences of CD can be severe, and complications may arise due to ongoing inflammation and disease progression. Strictures, or narrowing of the bowel lumen, can lead to bowel obstructions, whereas the formation of fistulas may cause abnormal connections between different parts of the intestine or between the intestine and other organs.

The inflammatory process in CD can extend beyond the gastrointestinal tract, affecting other organs and systems, such as the joints, skin, eyes, and liver. These extraintestinal manifestations contribute to the disease's overall impact on patient well-being.

Moreover, CD increases the risk of developing colorectal cancer, especially in patients with long-standing and extensive disease involvement. Patients with CD require lifelong medical management, including anti-inflammatory drugs, immunomodulators, and biologic agents, to control disease activity and reduce the risk of complications.

The economic burden of CD is substantial, encompassing direct healthcare costs, such as hospitalizations, medications, and surgeries, as well as indirect costs related to lost productivity and disability. The chronic nature of CD and the need for long-term medical management contribute to the disease's overall economic impact on healthcare systems and society.

Understanding the epidemiology and significance of CD is essential for healthcare professionals to develop effective strategies for disease management and improve patient outcomes. The subsequent sections delve into the theoretical framework of CD, including its definition, surgical treatment options, and potential complications, to provide a comprehensive understanding of this complex and challenging inflammatory bowel disease.

### Definition

Crohn's disease (CD) is a chronic and idiopathic inflammatory bowel disease (IBD) characterized by transmural inflammation that can affect any part of the gastrointestinal tract. The inflammation in CD extends through all layers of the intestinal wall, leading to a variety of clinical manifestations and complications. The precise etiology of CD remains elusive, but it is thought to result from an inappropriate immune response in genetically susceptible individuals triggered by environmental factors.

CD can present with different phenotypes, including ileocolonic, colonic, ileal, and isolated small bowel involvement. The disease course is characterized by periods of remission and relapse, with symptoms varying in severity and duration. The most common clinical features include abdominal pain, diarrhea, weight loss, and fatigue.

### Surgical Treatment

Despite advances in medical therapies for CD, surgical intervention remains an integral component of disease management. Approximately 70-90% of CD patients will require surgery at some point during their lifetime, most commonly due to complications such as strictures, fistulas, abscesses, and bowel obstructions.

Surgical indications for CD include uncontrolled inflammation, intolerable symptoms, complications, and failure of medical therapies. The goals of surgical intervention are to alleviate symptoms, correct complications, preserve intestinal function, and improve the patient's quality of life.

Different surgical procedures are employed based on the location and extent of the disease. Bowel resection involves the removal of the affected bowel segment, and the remaining healthy ends are anastomosed together. This approach is commonly used for localized disease and strictures.

Strictureplasty is an alternative surgical technique used to treat multiple strictures without removing bowel segments. It involves creating lengthwise incisions in the strictured segment and suturing the bowel back together in a way that widens the lumen while preserving bowel length.

In cases of complex disease with multiple strictures and fistulas, a combination of resection and strictureplasty may be performed. Additionally, surgical drainage is indicated for patients with abscesses, and fecal diversion with a temporary or permanent ostomy may be necessary in some cases.

### Complications

Despite surgical intervention, CD can recur in the postoperative period, with up to 60% of patients experiencing disease recurrence within 10 years after surgery. Moreover, patients who undergo multiple surgeries are at an increased risk of developing short bowel syndrome, leading to malabsorption and malnutrition.

Postoperative complications include anastomotic leaks, wound infections, abscess formation, and ileus. Strictures and fistulas may also recur after surgery, necessitating further interventions.

The use of biologic agents, such as anti-tumor necrosis factor (TNF) agents, has significantly improved postoperative outcomes by reducing the risk of disease recurrence. Perioperative optimization of nutrition and careful patient selection for surgical intervention are crucial factors influencing postoperative outcomes.

## DISCUSSION

The theoretical framework and surgical management of CD are essential aspects of disease management. While medical therapies have revolutionized the treatment of CD, surgical intervention remains necessary in a significant number of patients due to complications or refractory disease.

A multidisciplinary approach involving gastroenterologists, colorectal surgeons, nutritionists, and other specialists is essential for comprehensive disease management.

## **An Updated Review of Crohn's Disease**

Collaboration between medical and surgical teams allows for individualized treatment plans tailored to each patient's unique presentation.

The advent of minimally invasive surgical techniques, such as laparoscopy, has improved patient outcomes by reducing postoperative pain, hospital stays, and recovery times. Additionally, the development of enhanced recovery after surgery (ERAS) protocols has further optimized perioperative care, leading to better patient experiences and outcomes.

Long-term follow-up and monitoring are essential for CD patients, especially after surgery. Early detection of disease recurrence or complications allows for timely intervention and improves overall disease control.

Ongoing research in the field of CD focuses on understanding the disease's pathogenesis, identifying potential biomarkers for disease activity, and exploring novel therapeutic targets. The aim is to improve disease outcomes, reduce the need for surgical interventions, and ultimately enhance the quality of life for patients with CD.

### **CONCLUSION**

In conclusion, Crohn's disease is a complex and challenging inflammatory bowel disease with significant implications for affected individuals. The theoretical framework and surgical treatment options are crucial components of disease management, working in conjunction with medical therapies to improve patient outcomes and quality of life. Collaboration among healthcare professionals, ongoing research efforts, and patient-centered care are essential for optimizing the management of this chronic inflammatory disorder.

### **REFERENCES**

- I. Shanahan, F. (2002). Crohn's disease. *The Lancet*, 359(9300), 62-69.
- II. Baumgart, D. C., & Sandborn, W. J. (2012). Crohn's disease. *The Lancet*, 380(9853), 1590-1605.
- III. Cushing, K., & Higgins, P. D. (2021). Management of Crohn disease: a review. *Jama*, 325(1), 69-80.
- IV. Van Limbergen, J., Wilson, D. C., & Satsangi, J. (2009). The genetics of Crohn's disease. *Annual review of genomics and human genetics*, 10, 89-116.
- V. Kulnigg, S., & Gasche, C. (2006). Systematic review: managing anaemia in Crohn's disease. *Alimentary pharmacology & therapeutics*, 24(11-12), 1507-1523.
- VI. Wilkins, T., Jarvis, K., & Patel, J. (2011). Diagnosis and management of Crohn's disease.
- VII. Mayberry, J. F., & Rhodes, J. (1984). Epidemiological aspects of Crohn's disease: a review of the literature. *Gut*, 25(8), 886.