

**PHB**



**Dr. Arvind Kumar Gupta**  
(M.Pharm, PDCR, PGDMM & Ph.D)  
GATE 2003 Qualified with 97.2 percentile  
Dr. S. N. Dev College of Pharmacy  
Shamli (U.P.)

**OFFICE:** BUILDING No. 3/314, OFFICE-1, GAUSHALA ROAD, SHAMLI DISTRICT SHAMLI (U.P.) – 247776

**Mobile:** +91-9719638415

**Email:** arvindrkgit@gmail.com

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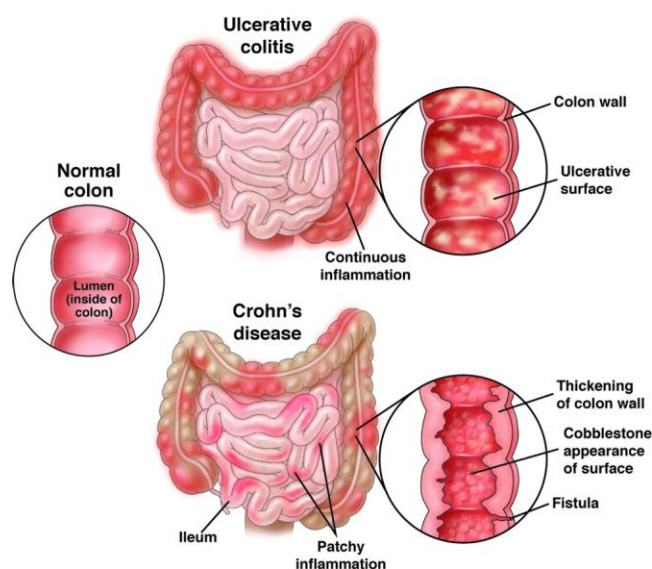
## Chapter– 6 Gastro-Intestinal Disorders

### Topic: INFLAMMATORY BOWEL DISEASES

#### 6.1

#### Introduction

Inflammatory Bowel Diseases (IBD) are a group of chronic inflammatory disorders that affect the gastrointestinal (GI) tract.



#### 6.2

#### Etiopathogenesis

The exact causes of IBD are still not fully understood, but several factors are thought to contribute to the development of the disease. These include:

- 1. Genetic predisposition:** Family history of IBD increases the risk.
- 2. Abnormal immune response:** The immune system mistakenly attacks the healthy tissues in the gastrointestinal (GI) tract.
- 3. Imbalance of gut microbe:** An imbalance of the normal bacteria in the gut may contribute to the development of IBD.
- 4. Environmental factors:** Smoking, stress, and certain medications may contribute to the

development of IBD.

**5. Epigenetic factors:** Epigenetic changes, such as DNA methylation and histone modification, may also play a role in the development of IBD.

### 6.3

### Types

The two main types of IBD are:

- 1. Ulcerative Colitis (UC):** A chronic inflammatory condition that affects the large intestine (colon), causing inflammation and ulcers in the colon lining.
- 2. Crohn's Disease (CD):** A chronic inflammatory condition that can affect any part of the GI tract, from the mouth to the anus, causing inflammation, ulcers, and damage to the GI tract.

### 6.4

### Symptoms

The symptoms commonly includes:

- 1. Diarrhea:** Frequent and loose stools.
- 2. Abdominal pain:** Cramping and tenderness in the abdomen.
- 3. Weight loss:** Unintentional weight loss due to malabsorption of nutrients.
- 4. Fatigue:** Feeling tired and weak.
- 5. Rectal bleeding:** Blood in the stool or black, tarry stools.
- 6. Loss of appetite:** Decreased interest in food.

### 6.5

### Causes

- 1. Genetic predisposition:** Family history of IBD increases the risk.
- 2. Abnormal immune response:** The immune system mistakenly attacks the healthy tissues in the GI tract.
- 3. Environmental factors:** Smoking, stress, and certain medications may contribute to the development of IBD.
- 4. Imbalance of gut microbiome:** An imbalance of the normal bacteria in the gut may contribute to the development of IBD.

## 6.6

## Diagnosis

Diagnostic procedures may include:

- 1. Medical history:** A thorough medical history to rule out other conditions.
- 2. Physical examination:** A physical examination to check for signs of malnutrition and abdominal tenderness.
- 3. Endoscopy:** A flexible tube with a camera is inserted through the rectum to visualize the inside of the colon.
- 4. Biopsy:** A tissue sample is taken from the colon for examination under a microscope.
- 5. Imaging tests:** X-rays, CT scans, or MRI scans may be used to evaluate the extent of disease.

## 6.7

## Pharmacological managements

Medications:

- 1. Aminosalicylates:** Medications such as sulfasalazine and mesalamine to reduce inflammation.
- 2. Corticosteroids:** Medications such as prednisone to reduce inflammation.
- 3. Immunomodulators:** Medications such as azathioprine and mercaptopurine to modify the immune response.
- 4. Biologics:** Medications such as infliximab and adalimumab to target specific proteins involved in inflammation.
- 5. Surgery:** Surgery may be necessary to remove damaged portions of the GI tract or to repair complications such as bowel obstruction.

## 6.8

## Non - Pharmacological managements

Lifestyle modifications

- 1. Dietary changes:** Avoiding trigger foods and following a balanced diet.
- 2. Stress management:** Practicing stress-reducing techniques such as meditation and yoga.
- 3. Exercise:** Regular exercise to improve overall health and reduce stress.
- 4. Quitting smoking:** Quitting smoking to reduce the risk of complications.
- 5. Getting enough sleep:** Getting enough sleep to help manage stress and fatigue.

## 6.9

## Complications

Complications of IBD may include:

- 1. Increased risk of colon cancer:** Untreated IBD increases the risk of colon cancer.
- 2. Extraintestinal manifestations:** IBD can cause symptoms outside of the GI tract, such as arthritis, eye problems, and skin rashes.

## Practice Questions

### MULTIPLE CHOICE QUESTIONS

1. Ulcerative colitis primarily affects which part of the digestive tract?
  - a) Small intestine
  - b) Stomach
  - c) Colon and rectum
  - d) Esophagus
2. What is the characteristic feature of ulcerative colitis?
  - a) Formation of strictures
  - b) Skip lesions
  - c) Continuous inflammation limited to the mucosal layer
  - d) Transmural inflammation
3. Which of the following is a common symptom of ulcerative colitis?
  - a) Abdominal pain relieved by eating
  - b) Constipation
  - c) Bloody diarrhea
  - d) Weight gain
4. The exact cause of ulcerative colitis is not fully understood, but it is believed to involve:
  - a) Genetic and environmental factors
  - b) Psychological factors
  - c) Bacterial infection
  - d) Food allergies
5. Which diagnostic test is commonly used to evaluate ulcerative colitis and assess disease severity?
  - a) MRI
  - b) Blood test
  - c) Colonoscopy
  - d) Electrocardiogram (ECG)
6. What is the main goal of treatment for ulcerative colitis?
  - a) Surgical removal of the colon
  - b) Relieve symptoms, induce remission, and prevent complications

- c) Increase inflammation
  - d) Promote weight loss
7. Aminosalicylates, corticosteroids, and immunomodulators are commonly used in the treatment of ulcerative colitis to:
- a) Increase inflammation
  - b) Decrease inflammation
  - c) Improve sleep quality
  - d) None of the above
8. Which of the following is a potential complication of ulcerative colitis?
- a) Osteoporosis
  - b) Type 2 diabetes
  - c) Gallstones
  - d) Colon cancer
9. During flare-ups of ulcerative colitis, which dietary factor is often recommended to be limited?
- a) Fiber
  - b) Protein
  - c) Carbohydrates
  - d) Fats
10. Approximately what percentage of patients with ulcerative colitis eventually require surgery due to complications or disease severity?
- a) Approximately 10%
  - b) Approximately 25%
  - c) Approximately 50%
  - d) Approximately 75%

### FILL IN THE BLANKS

1. Symptoms of ulcerative colitis can include abdominal pain, diarrhea with blood or pus, urgency to have a bowel movement, and \_\_\_\_\_. (**Weight loss**)
2. In severe cases of ulcerative colitis, complications such as \_\_\_\_\_, perforation of the colon, or toxic megacolon can occur. (**Colitis flare-ups**)
3. Treatment for ulcerative colitis aims to reduce inflammation and relieve symptoms through medications such as \_\_\_\_\_. (**Anti-inflammatory drugs**)



4. In some cases of severe ulcerative colitis, surgery to remove the \_\_\_\_\_ may be necessary. (**Colon**)
5. \_\_\_\_\_ is a common diagnostic test for ulcerative colitis, allowing doctors to visualize the lining of the colon and rectum. (**Colonoscopy**)

### SHORT ANSWER TYPE QUESTIONS

- Describe the characteristic features of ulcerative colitis.
- What are the common symptoms experienced by individuals with ulcerative colitis?
- Write the type of ulcerative colitis.
- How is ulcerative colitis diagnosed? Explain the diagnostic process.
- Explain the pharmacological management of ulcerative colitis.

### LONG ANSWER TYPE QUESTIONS

- Explain the etiopathogenesis of ulcerative colitis.
- Compare and contrast the clinical manifestations of ulcerative colitis with other inflammatory bowel diseases.
- Discuss the management strategies for ulcerative colitis.
- Classify the medication with example and explain the mechanism of actions
- How does ulcerative colitis impact the quality of life of affected individuals?

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#### MCQ Answer

|    |   |    |   |    |   |    |   |     |   |
|----|---|----|---|----|---|----|---|-----|---|
| 1. | C | 3. | C | 5. | C | 7. | B | 9.  | A |
| 2. | C | 4. | A | 6. | B | 8. | D | 10. | C |

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