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A CASE STUDY ON ULCERATIVE COLITIS

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ABSTRACT

I. Introduction:

Ulcerative colitis is a relapsing and remitting disease that is increasing in incidence and prevalence. Management aims to achieve rapid resolution of symptoms, mucosal healing and improvement in a patient's quality of life. 5-aminosalicylate acid medications remain the first-line treatment for mild to moderate disease. In the event of suboptimal response to these medications, escalation to immunosuppressive medications and biologics may be necessary. Importantly, despite best medical therapy, surgery may be required in a proportion of patients. The future will likely see an array of new therapeutic options for those with ulcerative colitis with the potential for a more personalised treatment approach[1].

Ulcerative colitis (UC) is a relapsing and remitting inflammatory bowel disease (IBD) characterised by mucosal inflammation, which starts distally and can extend proximally to involve the whole colon. It has a reported incidence in the UK of 12.6/100,000 person years (95% confidence interval (CI) 11.4 – 13.9).1 Importantly, prevalence appears to be rising with the most recent data from the Lothian region highlighting a point prevalence of 432/100,000.2 UC has a bimodal age distribution with an incidence peak in the second or third decades and a second peak between 50 and 80 years. The aetiology involves interactions between the environment, immune system, gut microbiome and a genetic predisposition to disease.3 Ulcerative colitis presents with bloody diarrhoea, frequency, abdominal pain, fatigue and faecal incontinence[2].

The Montreal classification groups UC patients, based on their maximal disease extent, into E1 or proctitis (disease limited to the rectum); E2 or left-sided disease (distal to splenic flexure); and E3 or extensive colitis (disease extends proximal to splenic flexure).4 Patients with left-sided disease or extensive colitis are associated with higher risks of medication usage, colectomy and colorectal cancer.4 Besides disease extent, the main risk factors for colorectal dysplasia/cancer in UC include disease duration; active endoscopic or histological inflammation; presence of a stricture or post-inflammatory polyps; family history of colorectal cancer; and associated primary sclerosing cholangitis (a chronic inflammatory bile duct disorder which affects

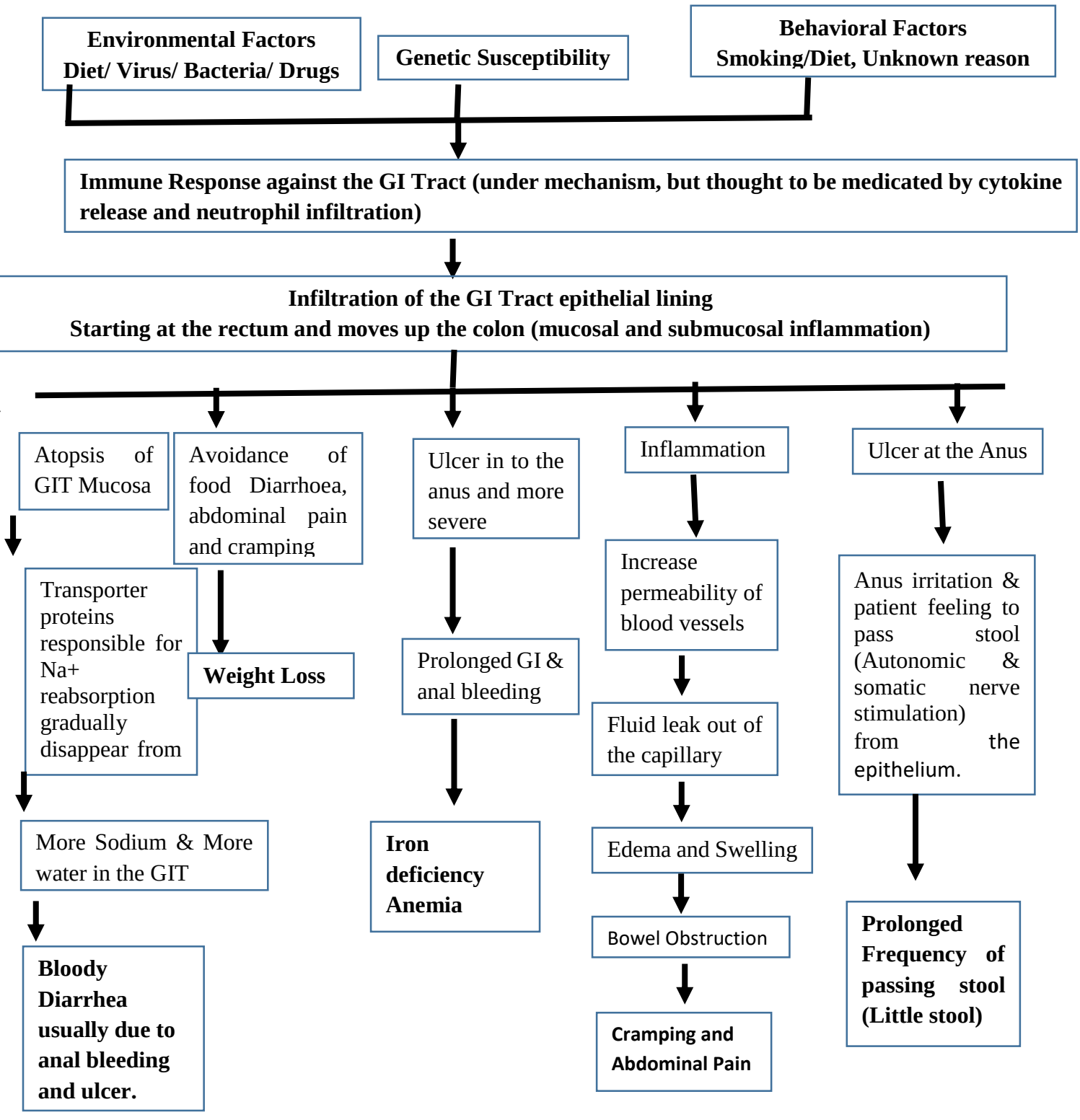
3–7% of UC patients).5 Other extra-intestinal manifestations of UC include, in order of frequency, anaemia, arthropathy (axial or peripheral), cutaneous (erythema nodosum or pyoderma gangrenosum) and ocular manifestations (anterior uveitis or episcleritis), most of which mirror UC disease activity, except for ankylosing spondylitis and peripheral polyarthritis[3].

Ulcerative colitis (UC) is an IBD involving the colonic mucosa. In 95% of the cases, there is rectal involvement with variable proximal involvement.32 It may be associated with backwash ileitis in which the ileocecal valve is gaping and there is no ulceration.33 In the initial stages, there is mucosal hyperemia, which progresses to erosions and ulcerations. Sloughing of the mucosa with projection of the mucosal remnants may lead to pseudopolyp formation, which can be seen on CT if outlined by air. There is bowel wall thickening, which, however, is less marked as compared with CD (Fig. 8). Fistula and abscess formation is also uncommon.34 Rectal narrowing and increased presacral space are characteristic of UC (Fig. 9). The increase in presacral space occurs because of extramural fat proliferation, which has slightly increased attenuation (10–20 Hounsfield units [HU]) compared with normal mesenteric fat (−55 to −75 HU) with intervening areas of soft tissue attenuation.34 In the chronic stage, the colon has a narrow, ahaustral, and foreshortened appearance (the lead-pipe colon seen on barium studies)[4.]

Although Hippocrates was aware that diarrhoea was not a single disease, it required more than 2 millennia before ulcerative colitis was distinguished from the very common infectious enteritides. In 1859, Wilks described the case of Mrs. Isabella Banks, who had “inflammation of the large intestine” and was “affected by discharge of mucus and blood, where, after death, the whole internal surface of the colon presented a highly vascular soft, red surface covered with tenacious mucus, adherent lymph.”8 By 1900, ulcerative colitis was fully characterized in terms of its clinical and pathologic criteria[5].

Key Words: Ulcerative Colitis, Inflammatory Bowel Disease, Biologics

PathoPhysiology of Ulcerative Colitis:

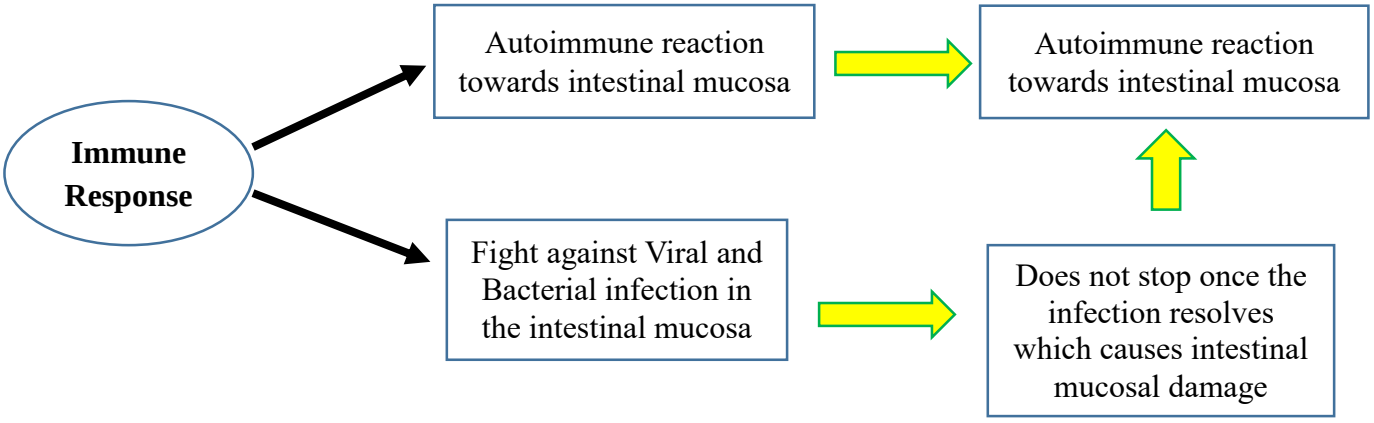


Etiological Factors:-

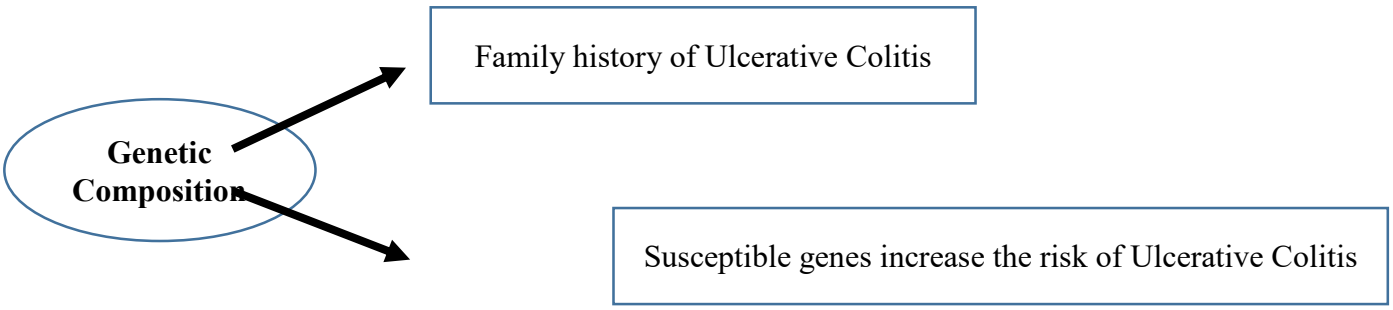
- Genetic Predisposition
- Viral or bacterial pathogens
- Diets
- Immunologic imbalance or disturbances
- Defect in intestinal barrier causing hypersensitive mucosa and increased permeability

- Defect in repair of mucosal injury

Auto Immune Reaction



Genetic Factors



Environmental Factors

- Antibiotics
- NSAIDS
- Oral Contraceptives
- Certain Foods
- Stress
- Emotional Distress
- Poor Dietary Pattern
- Smoking

Truelove and witt criteria for Grading Ulcerative colitis

Criteria	Mild	Moderate	Severe
Bowel movements	Less than 4 episodes	4-6 Episodes	**More than 6 Episodes**
Blood in Stool	Minimal	Mild to Severe	**Visible blood**
Pyrexia	No	No	**Yes**
Anemia	No	No	**Yes**
EST	Less than 30	30	**More than 30**
Pulse rate 90-100 / Min	No	No	**Yes**

Clinical features:-

WARNING SINGS

- Chronic Diarrhea
- Blood in Stool
- Tenesmus Abdominal Pain
- Abnormal weight Loss

Other features

- Fever and dehydration
- Fatigue
- Abdominal tenderness
- Abdominal distention
- Abdominal mass
- Passage of mucopurulent exudates
- Nocturnal defecation
- Vomiting
- Tachycardia
- Hypotension

Extra Intestinal Symptoms

- **Skin**
  - Erythema Nodosum
  - Pyoderma Gangrenosum

- **Gall Bladder**
  - Cholelithiasis
  - Sclerosing Cholangitis
- **Joints**
  - Spondylitis
  - Peripheral arthritis
- **Liver**
  - Steatosis
- **Mouth**
  - Stomatitis
  - Aphthous Ulcer
- **Circulation**

- ❖ Phlebitis

❑ **Kidneys**

- ❖ Nephrolithiasis
- ❖ UTI

❑ **Eyes**

- ❖ Episcleritis
- ❖ Uveitis

Diagnosis:-

- ➢ History and Physical Examination
- ➢ Complete Blood Profile
- ➢ LFT, RFT, Lipid profile
- ➢ Inflammatory markers
- ➢ Stool assay
- ➢ Faecal Calprotectin
- ➢ Serological series
- ➢ Plain abdominal X-Ray- To know fulminant or severity of colitis
- ➢ Barium Enema- To know ulcerative colitis, Polyps and masses
- ➢ CT Scan- To know Diffuse thickening of colon
- ➢ Colonoscopy and Sigmoidoscopy

Management:- → **Induction of Remission**
→ **Maintenance of Remission**
→ **Prevention of Complications**

Pharmacological Therapy

A) 5-Aminosalicytes:-

Ex: Sulfasalazine Mesalamine

- ➢ Exhibits results in remission induction and maintenance.
- ➢ Sulfasalazine suppositories is a preferred therapy for rectal ulcerations

B) Corticosteroids:-

Ex: Methylprednisolone, Hydrocortisone

- ➢ Used in acute treatment of moderate to severe colitis
- ➢ 40-60 Mg/day

C) Thiopurine:-

Ex: Azathioprine

- ➢ Effective for maintenance of remission

- 2-2.5 Mg/Kg/day

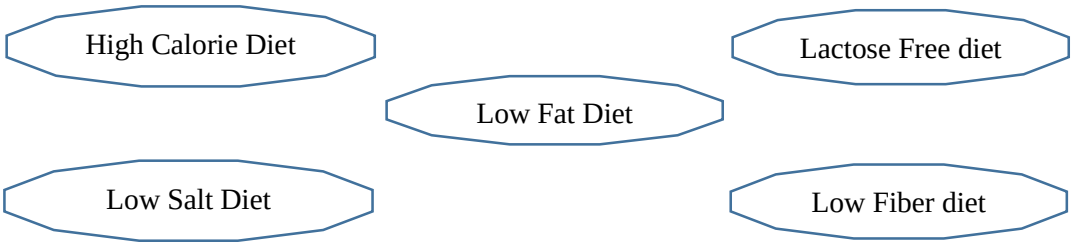
D) Cyclosporine

- Effective for severe ulcerative colitis
- 2-4 Mg/Kg/day

E) Biological Therapy

- Anti TNF(Tumor Necrosis Factor)
- Effective for both induction and maintenance of remission

Nutritional Therapy



- Low Residue, High Protein, High caloric diet
- Vitamin Supplements
- Iron Replacement
- IV Fluids
- Avoid Milk
- Avoid Cold foods and smoking

II. CASE PRESENTATION

A 35-year-old male patient presented to ER with complaints of multiple episodes of loose stools from past 6 months (20-30 times per day), some time incontinence and with pain in abdomen associated with vomiting post each meal since 4 months.

On presentation to the ER patient had severe abdominal pain with loose stool, Weight loss about 40-45 kg in past 6-8 months. Patient is having breathing difficulty with SPO2-80%. In ER ABG done and it shows severe Hypoxemia. Patient having Tachycardia, Tachypnea, Hypotension with 80/50 mm of Hg, Initial management done with IV cannulization with IV Fluids with NRBM(Oxygen) to the patient And immediately shifted to ICU (Intensive Care Unit) for further care. In ICU we have done with CT Abdomen Chest and abdomen done, 2D echo done and EF rate was 55.

Day 1 patient was on Oxygen support patient was maintaining 86% of SPO2 and Respiratory rate 10. With continuous passing of loose stool. CVP Line and Catheter inserted in ICU**,** Started with IV fluid, monitor the Intake Out-Put Chart and done blood test. Hb is 8.4 mg/dl, CRP shows 115, Procalcitonin 0.456, Total protein 3.4, Albumin 0.9. Started with Antibiotics (Ofloxacin, Ornidazole, Metronidazole), steroids and planned on day 2 for colonoscopy. Started with colo-preparation on day 1 night. And **Day 2** he underwent colonoscopy, and they diagnosed the patient as **Chronic Ulcerative Colitis** started with Mesacol-OD, Remantin IBD POWDER Azoran 50 mg with IV Fluid. **Day 3 and Day 4 SPO2 was improving and connected to Nasal prone** and his condition improving**.** We continue the same Treatment. **Day 5** Patient spo2 was 98-99% disconnected the

Oxygen and pain has come down and loose stool frequency reduced, Bed mobilization started and shifted to ward. In ward, we observed for 2 days. In Ward all medication changed to oral. As patient condition, improved patient being discharged in a haemodynamically stable condition on **Day 7** from the ward.

NURSING MANAGEMENT

Highly skilled and specialized nursing care provided to the patient. The nurses plays the integral role in the recovery of the patient. Hand hygiene maintained, pressure ulcer risk assessment with Braden scale, catheter associated urinary tract infection prevention bundle implemented to prevent hospital acquired infections. Different levels of oxygen management, Diaper change and other supportive care like spirometer exercise, and simple active exercises explained to the patient and attenders.

Drugs: Medications such as I V Fluids, Antibiotic (Ofloxacin 200 mg, Ornidazole 500 mg, BD and Metronidazole 500 mg TID for 3 days), 5-aminosalicylic acid, Immunosuppressant's, Corticosteroids, and with supportive treatment administered to the patient for 7 days

.**Nutritional support**: Nutrition Support throughout hospital stay by High Calorie diet, Low fiber, Low salt, Low Fat and Lactose free diet.

INFECTION CONTROL PREVENTION

The nurses ensure, strict aseptic techniques, personal and environmental hygiene was maintained. Hand hygiene, Semi Fowlers position (30– 40-degree) regular Buttock care each and after passing motion. CAUTI bundles and central line insertion and maintenance were followed.

Patient comfort and pain management

Head of the bed elevation 30-45 degree maintained.
Re-positioning /Passive limb exercises done.
Pain control maintained.
Prevention of pressure sore followed.
Hygiene-Eye care/Mouth care, Body care maintained.
Chest physiotherapy
Maintenance of hydration
Weight gain

Follow Up:

On Day 7 patient got discharged from the hospital in a stable condition with all necessary instructions. With the discharge medications.

TAB O2 500/200MG 1-0-1 X 5 DAYS (AFTER FOOD)
TAB ELIQUIS 5MG 1-0-1 X CONTINUE (AFTER FOOD)
TAB ESOGRESS 40MG 1-0-0 X CONTINUE (15 MINUTES BEFORE FOOD)
TAB WYSOLONE 40MG 1-0-0 X CONTINUE UNTIL REVIEW (AFTER FOOD)

CAP VSL #3 1-0-0 X CONTINUE (AFTER FOOD)

TAB VIADEK 1-0-0 X CONTINUE (AFTER FOOD)

TAB MESACOL-OD 1.2GM 2-0-2 X CONTINUE (AFTER FOOD)

TAB NERVIJEN 0-1-0 X CONTINUE (AFTER FOOD)

TAB SHELCAL-HD 0-1-0 X CONTINUE (AFTER FOOD)

REMANTIN IBD POWDER 2TSP IN 1 GLASS WATER/MILK 1-1-1 X CONTINUE

ABZORB DUSTING POWDER LOCAL APPLICATION TO GLUTEAL AND GROIN REGION 1-0-1 X CONTINUE

ANOBLISS OINTMENT LOCAL APPLICATION TO PERIANAL REGION 1-0-1 X 7 DAYS

The patient instructed to visit OPD once a week. In home patient has followed doctor and dietician advice and recovered well and back to normal life within a month with weight gain of 55 kg.

Patient and Family Education:

The patient and family members were educated about balancing a healthy lifestyle and patient were explained about involving in physical activity, proper using technique of inhalers, importance of spirometer exercise, exercise, balanced nutrition, care of buttocks with skin integrity healthy mental status, and follow-up with the consultant for regular monitoring of the patient health.

III. Discussion:

This case illustrates the accurate diagnosis, prompt treatment and effective nursing management of Ulcerative Colitis.

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