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Ulcerative Colitis: Diagnosis, Treatment, and Overall Management of Adult Patients

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Abstract: Ulcerative colitis (UC) is an inflammatory chronic disease primarily affecting the colonic mucosa; the extent and severity of colon involvement are variable. In its most limited form it may be restricted to the distal rectum, while in its most extended form the entire colon is involved. UC belongs to the inflammatory bowel diseases (IBD), which is a general term for a group of chronic inflammatory disorders of unknown etiology involving the gastrointestinal tract. UC is usually associated with recurrent attacks with complete remission of symptoms in the interim. In Western Europe and in the USA, UC has an incidence of approximately 6 to 8 cases per 100.000 populations and an estimated prevalence of approximately 70 to 150 per 100.000 populations. The leading initial symptom of UC is diarrhea with blood and mucus, sometimes with pain. Fever and weight loss are less frequent. Extra intestinal symptoms can be an initial manifestation or can occur later in the course of the disease. Eighty percent of the patients have only proctitis or proctosigmoiditis, and only 20% have extensive colitis. However, in about 50% of patients with initial proctosigmoiditis, proximal extension occurs later, and in some patients the opposite takes place. Depending of the stage of the disease, endoscopy reveals reddening of the mucosa, increased vulnerability, mucosal bleeding, irregular ulcers, pseudo polyps, granularity, and loss of vascular architecture. Several drugs interacting with various points along the immune and inflammatory cascades are currently available for the treatment of UC. Corticosteroids, amino salicylates, immunomodulators are the mainstay of medical treatment otherwise surgery recommended which may be radical.

Keywords: Ulcerative Colitis, Diagnosis, Treatment, Patients

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Introduction

Inflammatory bowel disease (IBD), a general term for a group of chronic inflammatory disorders of unknown etiology involving the gastrointestinal tract .Chronic IBD may be divided into two major groups, ulcerative colitis (UC) and Crohn's disease (CD), clinically characterized by recurrent inflammatory involvement of intestinal segments with several manifestations often resulting in an unpredictable course. Ulcerative colitis is an inflammatory chronic disease primarily affecting the colonic mucosa; the extent and severity of colon involvement are variable. In its most limited form it may be restricted to the distal rectum, while in its most extended form the entire colon is involved. However, 80% of the patients present with disease extending from the rectum to the splenic flexure, and only 20% have pan colitis. Although the causes of IBD remain unclear, considerable progress has been made recently in the identification of important pathophysiologic mechanisms, and further and newer knowledge

has been obtained from recent studies concerning their epidemiology, natural history, diagnosis and treatment.

Ulcerative colitis is usually associated with recurrent attacks with complete remission of symptoms in the interim. The disease is more common in Caucasians than in Blacks or Orientals with an increased incidence (three to six fold) in Jewish. Both sexes are equally affected. In Western Europe and in the USA, UC has an incidence of approximately 6 to 8 cases per 100.000 populations and an estimated prevalence of approximately 70 to 150 per 100.000 populations. While peak occurrence of both diseases (UC and CD) is between ages 15 and 35, it has been reported in every decade of life. A familial incidence of IBD is currently recorded. (1)

A cross-sectional descriptive study in Mosul General Hospital. The study targets two distinct methodologies. A checklist was used for the previous review backwards. Results that 49.0% of ages, 51.0% of females. The median age was 46.36 years.

SECTION ONE

Systematic Framework for Research

1.1 Research problem

Many people in this life are exposed to many psychological and physical pressure that affect the process of compatibility with human.

It results in chronic symptoms and complications in different body systems and is likely to affect the state of psychological of the patient state.

Equitable colitis is one of the inflammatory bowel diseases that cause inflammation and ulcers in the digestive system. Ulcerative colitis affects the internal lining of the large intestine (colon) and rectum. The symptoms usually develop over time and do not suddenly appear.

Ulcerative colitis may be tired, and can lead to complications that threaten life. Although the disease has no known treatment, treatment can help reduce signs and symptoms significantly, and can also lead to long of disease free periods.

1.2 Rresearch importance

The importance of research can be determined through the following points: -

1. It draws attention to appoint that colitis patients did not only need a drug therapy but they need other factors as the well and the environment surrounding the patient.
2. Specialized remedies and surgery that of which are therapeutic status for colitis patients.

1.3 Research aims

Research aims to achieve the following targets: -

1. Animation of ulcerative colitis.
2. Focus on factors that cause complications.
3. Therapeutic surgery for ulcerative colitis and scientific developments in this area.

SECTION TWO

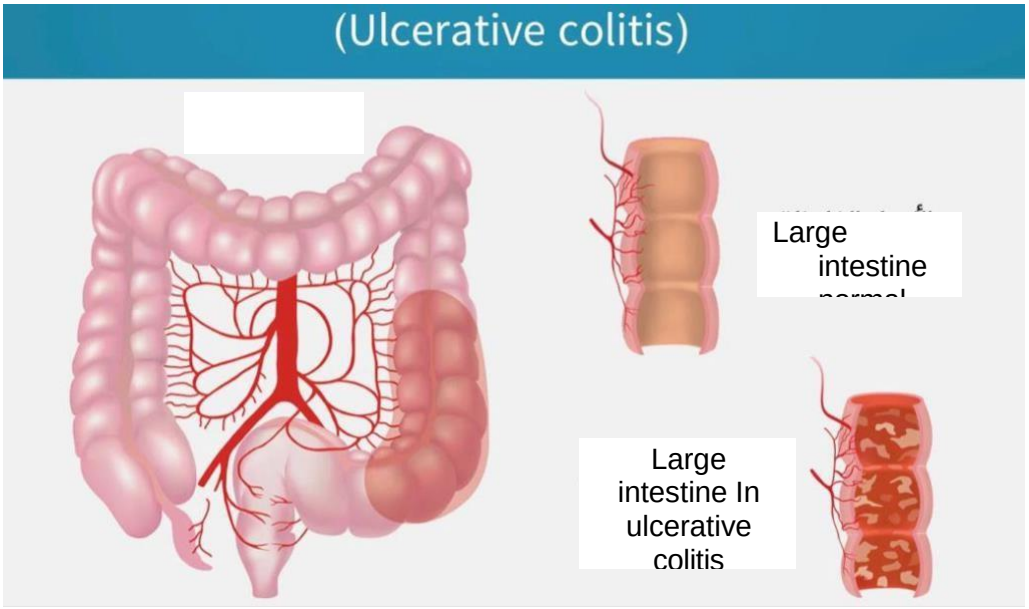
What is Ulcerative Colitis?

Ulcerative Colitis is a condition that causes inflammation and ulceration of the inner lining of the colon and rectum (the large bowel). Inflammation is the body's reaction to irritation, injury or infection, and can cause redness, swelling and pain. In Colitis, ulcers develop on the surface of the bowel lining and these may bleed and produce mucus. The inflammation usually begins in the rectum and lower colon, but it may affect the entire colon. If Colitis only affects the rectum, it is called proctitis.

Ulcerative Colitis is one of the two main forms of Inflammatory Bowel Disease, so may also be called

'IBD'. The other main form of IBD is a condition known as Crohn's Disease.

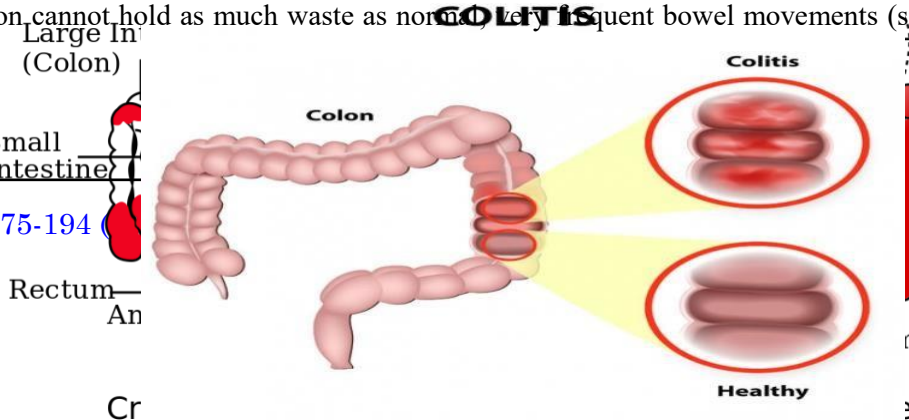
Colitis is sometimes described as a chronic condition. This means that it is an ongoing and lifelong, diseases the patient may have long periods of good health known as remissions, as well as relapses or flare-ups when the patient symptoms are more active. Everyone is different – in many people the disease is mild with few flare-ups, while other people may have more severe disease. At present there is no cure for Ulcerative Colitis, but drugs, and sometimes surgery, can give long periods of relief from symptoms. Research, including work funded by Crohn's & Colitis UK, is continuing into new treatments to improve patients' quality of life and eventually find a cure. Visit crohnsandcolitis.org.uk/ research to find out more. [1]



2.1 HOW DOES ULCERATIVE COLITIS AFFECT THE GUT?

As you can see from the diagram, the gut, or digestive system, is a long tube that starts at the mouth and ends at the anus. When we eat, the food goes down the oesophagus into the stomach, where gastric (digestive) juices break it down to a porridge-like consistency. The partly digested food then moves into the small intestine, also known as the small bowel. Here it is broken down even further so that the useful nutrients from food can be absorbed into the bloodstream through the wall of the intestine. The waste products from this process - liquid and undigested parts of food - then pass into the colon, which is also known as the large intestine or large bowel. The colon absorbs the liquid, and the leftover waste forms solid faeces (stools). These collect in the last part of the colon and the rectum until they are pushed out of the body through the anus in a bowel movement. In UC, parts of the colon and/or rectum become inflamed and sore.[1]

The inflamed colon is less able to absorb the liquid and this can lead to a larger volume of watery stools. Also, because the colon cannot hold as much waste as normal, very frequent bowel movements (six or more a day) may occur. [2]

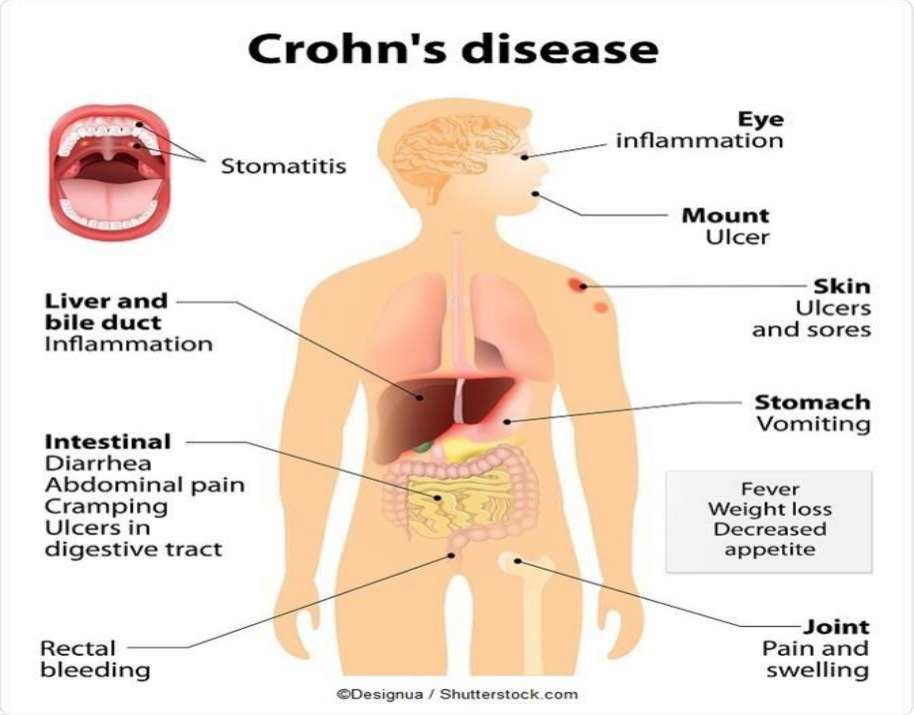


WHAT ARE THE MAIN SYMPTOMS?

Ulcerative Colitis symptoms may range from mild to severe and vary from person to person. They may also change over time, with periods of remission where you have good health and no symptoms, alternating with relapses or flare-ups, when your symptoms are troublesome. UC is a very individual condition - some people can remain well for a long time, even for many years, while others have frequent flare-ups. Your symptoms may vary according to how much of the colon is inflamed and how severe the inflammation is, but the most common symptoms during a flare-up are: [1]

- Diarrhoea .This is often with blood and mucus, and an urgent need to rush to the toilet.
- Cramping pains in the abdomen. These can be very severe and often occur before passing a stool.
- Tiredness and fatigue. This can be due to the illness itself, from anaemia (see below), or from a lack of sleep if you have to keep getting up at night with pain or diarrhea.
- Feeling generally unwell. Some people may have a raised temperature and feel feverish, with a fast heartbeat.
- Loss of appetite and loss of weight.
- Anaemia (a reduced number of red blood cells). You are more likely to develop anaemia if you are

losing a lot of blood or not eating well. Anaemia can make you feel very tired.



2.2 HOW WILL ULCERATIVE COLITIS AFFECT LIFE?

There is no single answer to this question because everyone is different, and people's experiences with Colitis vary so widely. Also, much can depend on the severity of your condition and on whether your disease is in a quiet or an active phase. Some people with Colitis may never have more than mild and infrequent symptoms of diarrhoea and pain, so the illness may not affect their lives very much. Other people have continuous and severe symptoms in spite of medical treatment, and have to adapt their lifestyle considerably.

2.3 CLINICAL GUIDELINE: ULCREATIVE COLITIS IN ADULTS

Ulcerative colitis (UC) is a chronic disease affecting the large intestine, with an increasing incidence worldwide. Nearly 1 million individuals each in the United States and Europe are affected by this condition and many more globally. Over the past decade, since the publication of the last guideline from the American College of Gastroenterology (ACG) on this topic, the management of disease has grown increasingly complex with availability of additional therapeutic classes. In addition, algorithms for initiating, optimizing, and monitoring response to existing therapies have undergone considerable evolution.

UC is a chronic immune-mediated inflammatory condition of the large intestine that is frequently associated with inflammation of the rectum but often extends proximally to involve additional areas of the colon. The absence of rectal involvement has been noted in fewer than 5% of adult patients with UC at diagnosis but may be seen in up to one-third of pediatric-onset colitis. The initial presentation of new UC is characterized by symptoms of an inflamed rectum, namely, bleeding, urgency, and tenesmus (a sense of pressure).

The condition may present at any time and at all ages, but there is a predominant age distribution of onset that peaks between ages 15 and 30 years. The pattern of disease activity is most often described as relapsing and remitting, with symptoms of active disease alternating with periods of clinical quiescence, which is called remission. Some patients with UC have persistent disease activity despite diagnosis and medical therapy, and a small number of patients present with the rapid-onset progressive type of colitis known as fulminant disease.

UC causes significant morbidity and describe low incidence of mortality (4,5). Patients with active disease are more likely to have comorbid psychological conditions of anxiety and depression and are more likely to have impaired social interactions or career progression. Long-standing UC is also associated with a defined risk of dysplasia and colorectal cancer, which is believed to be related to long - standing unchecked inflammation.

Management of UC must involve a prompt and accurate diagnosis, assessment of the patient's risk of poor outcomes, and initiation of effective, safe, and tolerable medical therapies. The optimal goal of management is a sustained and durable period of steroid-free remission, accompanied by appropriate psychosocial support, normal health-related quality of life (QoL), prevention of morbidity including hospitalization and surgery, and prevention of cancer. An emerging goal in UC management is that of mucosal healing. To achieve these goals, understanding of the most effective diagnostic, treatment, and preventive strategies is necessary. As with any medical decision making, involvement of the patients' preferences forms an important component of care.

This clinical guideline addresses the diagnosis, treatment, and overall management of adult patients with UC, including an approach to the evaluation of the hospitalized patient and a separate section on colorectal cancer prevention. Additional recommendations regarding preventive care in inflammatory bowel disease (IBD) have been published by the ACG previously.

The guideline is structured in sections, each with recommendations, key concept statements, and summaries of the evidence. Each recommendation statement has an associated assessment of the quality of evidence and strength of recommendation based on the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) process.

DIAGNOSIS, ASSESSMENT, AND PROGNOSIS OF ULCERATIVE COLITIS

Key concept statements:

1. The diagnosis of UC should be suspected in patients with hematochezia and urgency.
2. Infectious etiologies should be excluded at the time of diagnosis.
3. Colonoscopy with intubation of the ileum and biopsies of affected and unaffected areas should be obtained to confirm the diagnosis of UC by a trained pathologist with expertise in gastrointestinal pathology when possible.
4. Categories of disease extent include (i) proctitis (within 18 cm of the anal verge, distal to the recto sigmoid

junction), (ii) left-sided colitis (extending from the sigmoid to the splenic flexure), and (iii) extensive colitis (beyond the splenic flexure).

5 . If the terminal ileum is normal, further evaluation of the stomach and small bowel by upper endoscopy and cross-sectional imaging is not needed unless there are other symptoms or findings to suggest proximal GI involvement or a diagnosis of Crohn's disease (CD) rather than UC.

6 . Definitions of disease severity are needed to guide treatment decisions; definitions should be based on (i) patient-reported outcomes (PROs) (bleeding and normalization of bowel habits), (ii) inflammatory burden (endoscopic assessment including extent and severity and markers of inflammation), (iii) disease course (need for hospitalization, need for steroids, and failure to respond to medications), and (iv) disease impact (functionality and QoL).

7 . Fecal calprotectin (FC) can be used in patients with UC as a noninvasive marker of disease activity and to assess response to therapy and relapse.[1]

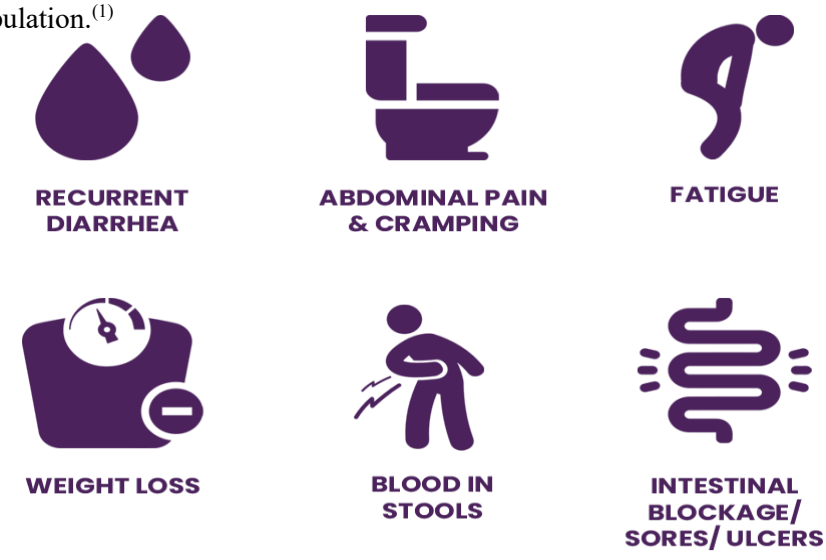
Recommendations: -

1 . recommend stool testing to rule out Clostridioides difficile (C. diff) in patients suspected of having UC (strong recommendation, very low quality of evidence).

2 . recommend against serologic antibody testing to establish or rule out a diagnosis of UC and determine the prognosis of UC (strong recommendation, very low quality of evidence).

Ulcerative Colitis Causes & Diagnosis

In all probability we shall never know who first described ulcerative colitis; although the disease was first referred to by name in 1859 by Sir Samuel Wilks. Prior to that date, as far back as Roman times, various forms of non-contagious diarrhoea were described freely in the literature by such physicians as Aretaeus (A.D. 300), and the curiously aptly named Soranus (A.D. 117); and it has been suggested that in 1745 Prince Charles, the Young Pretender to the throne, suffered from ulcerative colitis and cured himself by adopting a milk-free diet (Wilson, 1961)! Some years after Wilks (1859) first referred to the disease by name, the Surgeon General of the Union Army (describing the medical history of the American Civil War), also referred directly to 'ulcerative colitis'-and even produced photomicrographs showing the histological appearances, an outstanding technical achievement for the time (Crohn, 1962). Following these pioneer descriptions the pathological and clinical features of the disease were closely characterized, notably by Wilks & Moxon (1875), Allchin (1885) and Hale-White (1888). Gradually ulcerative colitis became more widely recognized until in 1909, at a symposium of the Royal Society of Medicine, no less than 300 cases had been collected from the various London hospitals. Since then the disease has consistently increased in popularity, until recent studies by Evans & Acheson (1965) have suggested that it afflicts roughly 1 in 1000 of the general population.[1]



1. Sutherland L, MacDonald JK. Oral 5- aminosalicylic acid for induction of remission in ulcerative colitis. Cochrane Database Syst Rev. 2003;(3):CD000543.

3.1 ETIOLOGY

Whilst it is unfortunately true to say that the etiology of ulcerative colitis remains obscure, during the past few decades many attempts have been made to unravel this complicated problem. The most popular theories concerning the etiology of ulcerative colitis can be listed as follows:

1. Infection: Even though ulcerative colitis had clearly been separated from the contagious forms of diarrhea by the middle of the nineteenth century, until recently many workers refused to believe that this disease was not infectious in nature. Perhaps the most widely celebrated of these was Bergen, who in 1924 claimed to have isolated a diplococcus from the stools of patients suffering from ulcerative colitis-and even produced a vaccine against this diplococcus, which was claimed to be effective in such patients. Unfortunately these claims were not entirely justified.

Bergen's 'diplococcus' was shown to be almost certainly a harmless type of enterococcus found in the stools of vast numbers of the general population; and no real convincing evidence was forthcoming to suggest that the vaccine was effective in preventing attacks of colitis. Since that date other authors have postulated that a number of organisms might be partly responsible for ulcerative colitis, including parasites, fungi and various viruses.[1] Unfortunately, however, further careful controlled studies have failed to uphold the claims of these various organisms to be the offending agents in causing ulcerative colitis. Thus there is little concrete evidence nowadays in support of any hypothesis proposing an infectious aetiology for ulcerative colitis.

2. In 1947 Meyer and his colleagues (Meyer, Gellhorn & Prudden, 1947) proposed that ulcerative colitis might be due to destruction of the mucus lining the surface of the colon by enzymes, (which were termed mucinases), thus rendering the colon more susceptible to attack by bacterial and other agents. It was shown that stool concentration of lysozyme (an enzyme claimed to be capable of digesting colonic mucus), was higher in colitic patients than in normal controls, and that the stool concentration rose and fell during exacerbations and relapses of colitis. It remained, however, far from certain that lysozyme was the cause of this disease, since the changes observed in lysozyme titre could very well have been the result instead. Finally this hypothesis fell into disrepute when it was shown (albeit in vitro) that lysozyme was incapable of dissolving or digesting human mucus.[2]

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1. (Fradkin, 1937; Dragstedt, Dack & Kirsher, 1941 ; Henderson, Pinkerton & Moore, 1942; Victor, Kirsner & Palmer, 1950)

2. Wang, Haidong; et al. (GBD 2015 Mortality and Causes of Death Collaborators) (October 2016). "Global, regional, and national life expectancy, all-cause mortality, and cause-specific mortality for 249 causes of death, 1980-2015: a systematic analysis for the Global Burden of Disease Study 2015". Lancet. 388 (10053): 1459–1544.

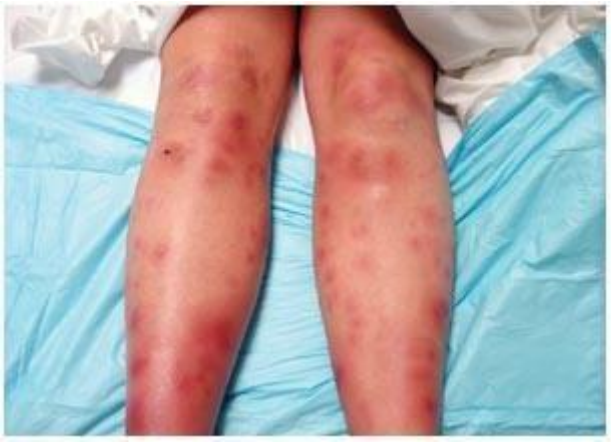
❖ **Allergy**

Despite the fact that some workers have succeeded in producing a type of delayed hypersensitivity reaction in the colon of the experimental animal (Rosenberg & Fischer, 1964; Bicks & Rosenberg, 1964), the position of allergens in the a etiology of ulcerative colitis is also somewhat uncertain at the present time. But it would be a serious omission to dismiss this subject without dealing in some details with the potential allergen which has been most widely discussed during the last 40 years, namely cow's milk. The idea that cow's milk might be in some way

responsible for the development of ulcerative colitis was first emphasized by Andresen (1925, 1942). More recently as a result of studies by Truelove and his colleagues at Oxford, several additional facts have come to light which appear to support this hypothesis. [(1)]

These workers have shown that occasional patients with ulcerative colitis experience a remission of their disease when milk products are excluded from their diet, and suffer a relapse when they are re- introduced. Also it has been shown that the titer of antibodies to milk proteins in the circulation is significantly raised in colitis patients when compared with normal matched controls, and it has been further suggested that a significantly greater proportion of colitis patients have abandoned breast feeding in the 1st month of life than healthy matched controls (Truelove, 1961; Taylor & Truelove, 1961; Acheson & Truelove, 1961; Wright & True love, 1965a, b). However, in a subsequent controlled trial (Wright & Truelove, 1965a), the benefit derived from a milk-free diet was only marginally significant despite the application of complex and elegant statistical tests; and it would require a much larger and more prolonged trial to confirm the value of this diet. [(2)]

erythema nodosum Pyoderma gangrenosum



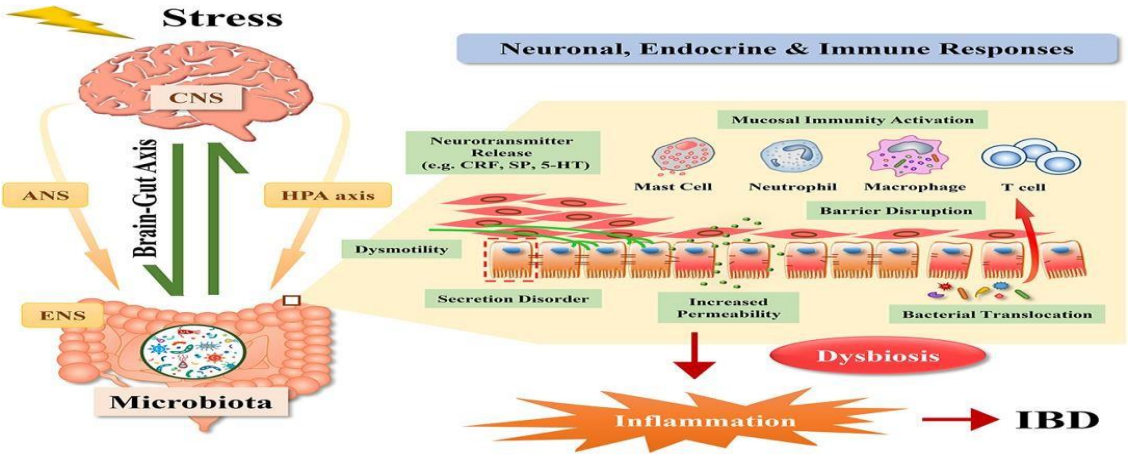
As for the claim that circulating antibody titre to milk is raised both in colitic patients and in individuals who are weaned at an early age, this has both been supported and-conversely-denied (Dudek, Spiro & Thayer, 1965), by other careful controlled studies. There are several other pieces of evidence which argue that milk may not be the prime cause of ulcerative colitis. Leeds they have tried to repeat Acheson and Truelove's survey concerning early weaning; but the majority of our patients could unfortunately not recall whether they were breast or bottle fed, and most of them seemed unable to find out! But we did discover that it is the clandestine custom of many maternity nurses to administer a feed of cow's milk every night (so as not to disturb the mother), to 'breast fed' infants born in hospital! We may conclude that milk is unlikely to be the prime etiological agent responsible for ulcerative colitis- although it may possibly play a secondary etiological role, perhaps determining the occurrence of some subsequent relapses of the disease as suggested by Truelove (1961).

❖ Psychological factors

The controversy concerning Bergen's dibucci and the role of milk is as nothing compared with the polemic which has raged concerning the possible significance of psychological factors in the aetiology of ulcerative colitis. Indeed there is powerful evidence to suggest that emotional factors may be of some importance in maintaining or prolonging an existing attack of colitis. It is well known that feelings of anxiety or resentment may be accompanied by several changes in the colonic mucosa, comprising an increase in tone, in lysozyme secretion, and in intracolonic pressures; furthermore the mucosa may become hyperaemic and secrete a thick tenacious mucus (Grace, Wolf & Wolff, 1951). These physiological studies have extreme importance, in that they provide powerful evidence in favour of the contention that attacks of colitis are more prolonged and severe in the presence of an adverse psychological reaction; and they provide powerful support for the inclusion in conservative management of this disease of a 'common sense' form of psychotherapy during an acute, troublesome attack. However, there is very little evidence to suggest that the majority of patients suffering from ulcerative colitis have an inherently different

emotional make-up from the remainder of the population. Of our own series of patients in Leeds less than 5% were attending or had attended a psychiatrist at any time time during their life. A further 9% when questioned about their reaction to colitis admitted that they considered their relapses of the disease to be related to emotional trauma-usually adding that they had previously been told that their colitis was caused by 'nerves'.

The remainder of our patients seemed to us to be normal well-adjusted individuals who showed a natural interest in their disease. This finding has been supported by a similar carefully controlled study reported from the United States of America (Feldman et al., 1967). Undoubtedly there are changes in the attitude to life of patients during severe attacks of colitis. They become depressed, morose and dependent upon their clinical attendants. But who would not be depressed at the prospect of ten or twelve bowel actions a day; and who would not become dependent upon a medical attendant whom one considered to be capable of alleviating this distressing symptom? If such depression and dependence are to be accepted criteria for a 'psychosomatic' disease, then one must carefully consider the claims of diseases such as peripheral arteriosclerosis, colonic cancer, hiatal hernia, congestive cardiac failure, and food poisoning to be psychosomatic diseases also!.



❖ Autoimmunity

The first studies suggesting that ulcerative colitis might be an autoimmune disease are widely attributed to Broberger & Perlmann (1959)-although Cornelis (1958) had already suggested such a possibility. Broberger & Perlmann (1959), using an extract of foetal colon in tissue culture, were able to show haemagglutinating antibodies to the colonic mucosa in no less than twenty out of thirty children with ulcerative colitis. It was still possible to argue that the changes which Broberger & Perlmann had observed were occurring as a totally independent phenomenon, and were unrelated to the disease process of ulcerative colitis. But this argument was in part refuted by their further studies (Perlmann & Broberger, 1963) showing that the leucocytes from patients with ulcerative colitis had a cytotoxic effect upon the foetal colon cells in tissue culture, an effect which was inhibited by pre-treatment with colon antigen.

Broberger & Perlmann's pioneer work has then been confirmed and extended (Fink, Donnelly & Jablokow, 1967; Watson, Quigley & Bolt, 1966; de Dombal, 1967). However, further studies by Harrison (1965) and by Wright & Truelove (1966) have shown that autoantibodies to colon can be demonstrated in only 15 or 20% of patients with ulcerative colitis; and moreover there is little correlation between the clinical course of colitis and the incidence of circulating antibodies to colon. Thus it seems clear that some patients with ulcerative colitis do certainly develop circulating antibodies to their colonic mucosa cytoplasm; but the experimental evidence available has largely failed to show whether these antibodies arise as a cause or as an effect of the pathological changes which are occurring in the colon.[1]

3.2 . DIAGNOSIS

It is surprising what scant attention is paid in the literature to this aspect of ulcerative colitis, presumably because the symptoms and the general physical findings are considered to be only too well known. The principal symptoms of ulcerative colitis are rectal bleeding and diarrhoea -which are present in nearly every case seen in an acute attack of the disease. Not so generally recognized is the fact that nearly two-thirds of patients during acute attacks suffer from a colicky type of abdominal pain; whilst less common symptoms are fever, weight loss, vomiting, tenesmus- and occasionally symptoms which occur as the result of systemic complications such as joint pain, iritis, or nodose skin lesions. General physical examination of the colitic patient is usually unrewarding, but during severe acute attacks the patient may be emaciated, sallow in complexion, and showing evidence of anaemia and dehydration.

Abdominal examination may reveal tenderness, localized muscular guarding and rigidity, and occasionally distension. However, it must be pointed out that there are considerable discrepancies in authoritative opinion regarding the reliability of these physical findings in severe acute ulcerative colitis; and this difficulty is increased by the widespread use of corticosteroids, which tend to mask the more florid signs of severe ulcerative colitis (and even on occasion to breed a false sense of security in the unwary physician). For this reason, in ulcerative colitis additional diagnostic procedures such as sigmoidoscopy and radiological studies assume an increased importance.

❖ Rectal examination including sigmoidoscopy

It is difficult to over-rate the value of this examination in dealing with ulcerative colitis. A full rectal examination should be carried out on every new case of ulcerative colitis and certainly in any case in which the diagnosis is in doubt; sigmoidoscopy then being repeated from time to time to assess the progress of this disease. The facets of rectal examination which are relevant in this situation are several. First digital and proctoscopic examination is carried out, followed by a full and careful sigmoidoscopy. For any patient with new, or doubtful disease, rectal biopsy may then be performed; and a specimen of the patient's stools should be sent for culture. Sigmoidoscopic appearances. The appearances generally accepted as being typical of ulcerative colitis are shown in Table 1. However, there has recently been considerable dispute as to the ease and reliability with which these various signs can be recognized. Indeed in a recent survey from Leeds, Watts, Thompson & Goligher (1966c) were able to identify only four characteristics of the rectal mucosa which could be recognized with any reliability, namely:

(1) The overall impression of normality or abnormality.

(2) The presence or absence of a vascular pattern.

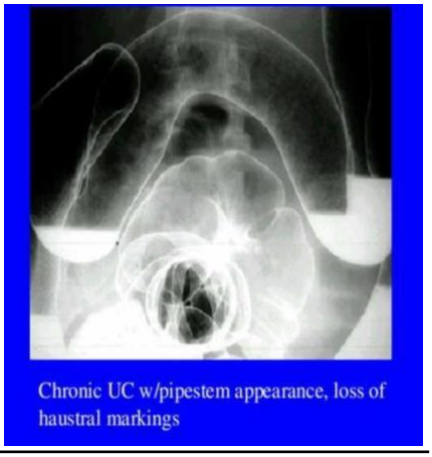
(3) The presence or absence of contact bleeding.

(4) The presence or absence of edema.

Moreover, as Matts (1961) has shown, quiescent ulcerative colitis is perfectly compatible with a normal sigmoidoscopic appearance showing none of these changes. His study emphasizes the need for additional rectal biopsy to be performed in any case where the diagnosis is in doubt, or where the sigmoidoscopic appearances indicate quiescent disease.[1]

TABLE 1 Sigmoidoscopic appearan ces of ulcerative colitis

Rectal wall	Lumen of bowel


Chronic UC w/pipestem appearance, loss of haustral markings

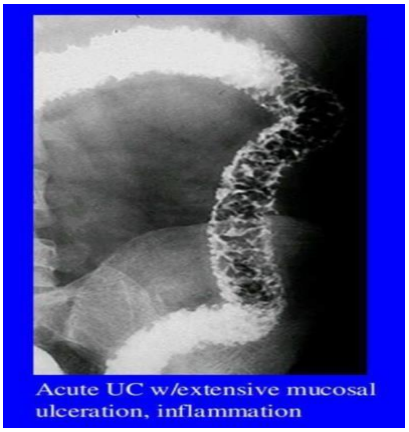
Red (or very pale) mucosa Absent vessel pattern Contact bleeding Granularity Oedema Ulceration Absent or distorted valves Rigidity Polyps Stricture Carcinoma	Mucopus Free blood Liquid faeces

❖ **Radiological examination**

The classical method of radiological examination of the colon is undoubtedly by the barium enema technique; although more recently the value of plain X-ray plates of the abdomen has been emphasized, and selective mesenteric arteriographic method have been tried. Barium enema examination. As long ago as 1912 the barium enema appearances of ulcerative colitis were described by Stierlin. Unfortunately, though there have been many additions since then to our knowledge of the abnormal findings in the colitic bowel on X-ray examination, there have been very few worth while attempts to evaluate the reliability and practical value of the various radiological signs described in this disease. It has, therefore, seemed relevant to us to examine our own experience in this respect in a highly critical manner, initially by means of careful 'observer variation' studies (Geffen et al., 1968; de Dombal et al., 1968). The findings in our own survey were somewhat disconcerting, in that although thirty or forty signs were listed for study at the start of the proceedings, there was no single radiological sign about which complete agreement could be reached between two independent observers! A small group of radiological signs (Table 2) were, however, both frequently seen and reliably interpreted. These signs include many of the 'classical appearances' of ulcerative colitis, such as shortening and narrowing of the colon, absence of haustration, ulceration, and so on. We regard these signs as reliable; and would suggest that the diagnosis of ulcerative colitis made on a r adiological basis should be determined on the presence or absence of these ten or eleven signs. [1]

TABLE 2 Frequent, reliable radiological signs of ulcerative colitis seen on barium enema

Narrowing of bowel
Shortening of bowel
Decreased distensibility
Decreased bowel tone
Ulceration
Loss of haustration
Fine serration of bowel wall
Abnormal haustra } After
Longitudinal folds



Other radiological signs, described in the literature as being typical of ulcerative colitis, were shown on a detailed analysis to be almost certainly unreliable, since our two observers disagreed about their presence or absence more often than they were able to agree. Indeed there were a few signs in this category, such as spiculation, eccentric contour and the presence of a coarse reticular mucosal pattern, which were never agreed to be present at all! Occasionally one or other observer would claim that he saw such a sign; but in view of the failure to reach agreement in a single instance concerning the presence of these signs we must regard them as being utterly unreliable.

Plain X-ray abdominal examination. Simple radiological examination of the abdomen often reveals useful

information in cases of ulcerative colitis. The gas ordinarily present in the large intestine is evident on a plain X-ray plate, and functions as an opaque medium to give an outline of the colon which may be recognized to be abnormal. The changes are most usually seen in the transverse colon if the plain film is taken with the patient lying supine. Occasionally further information is available, as when a cobblestone appearance indicates the presence of polyposis, or where a great widening of the colonic shadow indicates the occurrence of acute dilatation of the bowel. Hence the main value of plain abdominal X-ray examination is in the severe acute attack, both in the detection of the presence of colitis, and in the detection of the development of complications such as acute colonic dilatation. To be of use for this purpose it should be carried out both on admission of such patients, and thereafter every day or so until their acute attack has undergone remission.[1]

❖ **Pathological diagnosis**

It is not proposed to deal in any great detail with this difficult problem at this juncture; for considerable controversy exists concerning the pathological diagnosis of ulcerative colitis, and in particular the differentiation between ulcerative colitis and Crohn's disease involving the large bowel. Indeed this fascinating pathological distinction is worthy of discussion in its own right, and this has been undertaken elsewhere (Morson, 1968). Suffice it to say at this stage that ulcerative colitis almost without exception involves the rectum and spreads diffusely from the rectum for a variable distance proximally around the large bowel-whereas Crohn's disease is more apt to affect the colon and rectum on a segmental basis, the rectum frequently being completely normal in this latter complaint.

The other cardinal pathological feature of ulcerative colitis is that the disease primarily involves the rectal and colonic mucosa; again in complete contra-distinction to classical Crohn's disease, which affects all coats of the bowel wall. In the vast majority of cases on clinical and pathological grounds the two diseases can be distinguished from one another with little difficulty. However, most authorities would agree that a small percentage of patients cannot be allocated with confidence to either category; and perhaps for the moment whilst this difficult problem is unresolved these occasional few cases would be the best categorized as 'unclassifiable colitis'.

3.3 FIRST ATTACK

Since it is widely recognized that the first attack of ulcerative colitis is perhaps the most dangerous of all from the patient's point of view, it is astonishing that so little attention was paid to this important aspect of the disease prior to 1963. The findings of (Watts et al., 1966a) confirm those of Edwards & Truelove (1963), namely that the factors which affect the outcome of the first attack are:

(1) The severity of the attack.

(2) The extent of disease.

(3) The age of the patient.

These findings in the researcher patients, covering the period 1952-63, emphasized that despite recent improvements in treatment, severe attacks of colitis, (particularly in those with extensive disease, or in those aged over 60 at the time), remained a formidable clinical problem with a high mortality.

Therefore, they decided in 1964, as a result of their studies, that they would in future invoke the aid of radical surgery at an early stage of all severe attacks (including first attacks), unless there was unequivocal evidence of rapid improvement upon a conservative regime.

A more recent publication (Goligher et, al., 1967) has shown considerable initial success for this policy. No patient has died in a first attack of ulcerative colitis since 1963; and the overall mortality in all severe attacks of the disease (assessed according to the criteria of Truelove & Witts, 1955) has been only 1-3%- as against 11-3% in the previous decade.

In summary it may be fairly said, therefore, that there is a large measure of agreement concerning the initial attack of colitis. The mortality is highest during severe attacks, with extensive disease, and in elderly patients; and this

mortality may be sharply reduced by the early use of surgery where intensive medical treatment fails to produce an improvement.

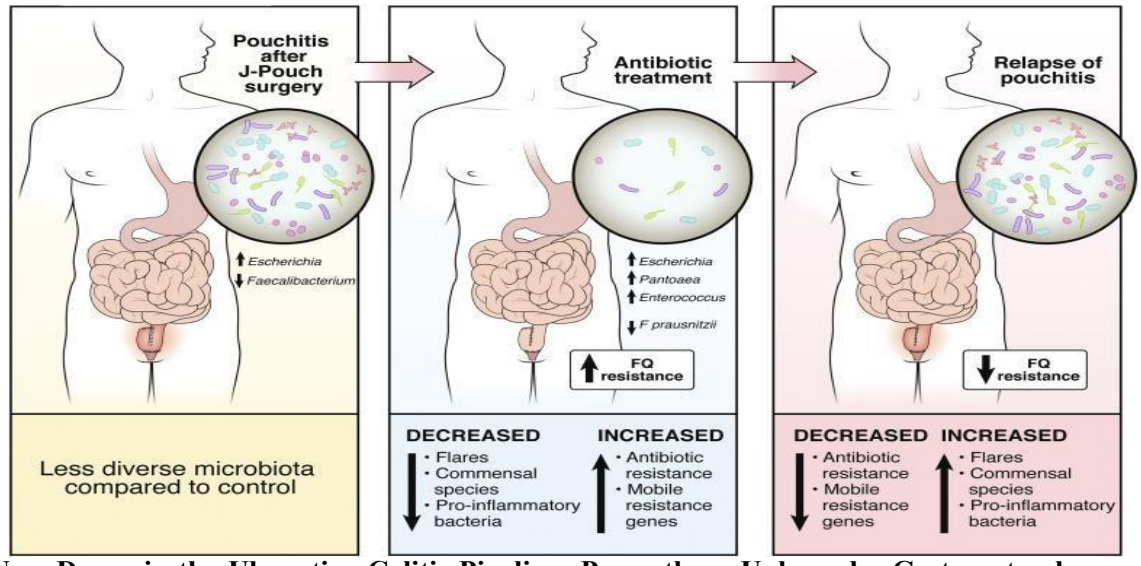
Ulcerative Colitis Treatment & Surgery

Treatment for ulcerative colitis can include medicine, changes in the patients diet, or surgery. These treatments won't cure ulcerative colitis, unless the patient undergoes surgery that removes the colon and rectum, which is considered curative, but they can help ease the patients symptoms.

It's important to get treated for ulcerative colitis as soon as one start having symptoms. If the patient have severe diarrhea and bleeding, he might need to go to the hospital to prevent or treat dehydration, reduce your symptoms, and make sure he is getting the right nutrition.[1]

4.1 MEDICATIONS FOR ULCERATIVE COLITIS

The doctor may suggest several types of medicines to curb inflammation in The bowel, including sulfa drugs, corticosteroids, immunosuppressive agents, and antibiotics :5-aminosalicylic acid (5-ASA). Balsalazide, mesalamine, olsalazine, and sulfasalazine are the main medications used to treat ulcerative colitis. They come in pills and suppositories. The doctor has to know if the patients allergic to sulfa before taking one of these drugs. They can prescribe a sulfa- free 5-ASA. [2]



New Drugs in the Ulcerative Colitis Pipeline: Prometheus Unbound – Gastroenterology

❖ Corticosteroids. These anti-inflammatory drugs can be used if 5-ASA drugs don't work for you or if patient has a more severe disease. These medicines sometimes have side effects and long-term complications, so doctors often suggest them for short periods of time to help the patient get in remission. The patient doctor may then prescribe the patient a 5-ASA medication to keep your symptoms away for a longer period.

❖ Immunosuppressants. If corticosteroids or 5-ASA drugs don't help, the patient doctor may prescribe these kinds of drugs, such as 6-mercaptopurine (6-MP), azathioprine (Azasan, Imuran), cyclosporine, and tacrolimus (Astagraf XL, Envarsus XR, P4rograf).

❖ Biological treatment as antibiotic. This group of drugs includes adalimumab (Humira), plus adalimumab-atto (Amjevita) and adalimumab-adbm (Cyltezo), which are biosimilars to Humira; certolizumab pegol

(Cimzia), golimumab (Simponi, SimponiAria), infliximab (Remicade), infliximab-

abda (Renflexis), infliximab-axxq (Avsola), infliximab-dyyb (Inflectra), a biosimilar to Remicade, infliximab-qbtx (IXIFI), ustekinumab (Stelara), and vedolizumab (Entyvio).

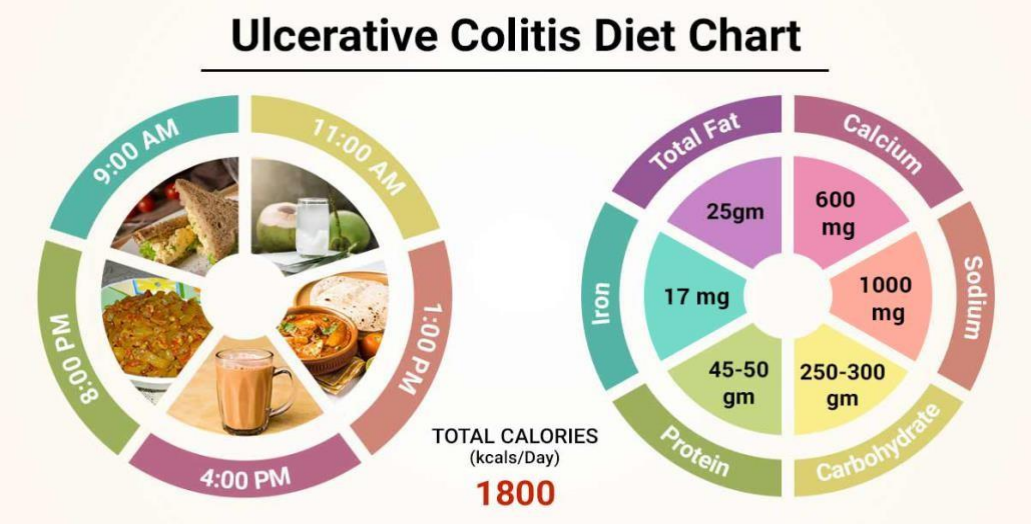
❖ Janus kinase inhibitors (JAK inhibitors). These are oral medicines that can work quickly to get and maintain a remission in ulcerative colitis. Tofacitinib (Xeljanz) is the first JAK inhibitor that is FDA- approved for the treatment of ulcerative colitis.

❖ Sphingosine 1-phosphate (S1P) receptor modulators. Ozanimod (Zeposia) is an oral medication and is the first sphingosine 1-phosphate (S1P) receptor modulator approved for patients with moderately to severely active UC.

Newer medications being studied include a group. called sphingosine 1-phosphate receptor modulators. These can be taken by mouth. Researchers think they may get around the anti-drug antibodies that sometimes form with medications given as a shot. Antibodies are proteins that cancel out viruses, bacteria, and other things the body doesn't recognize.[1]

DIET CHANGES FOR ULCERATIVE COLITIS

While food doesn't appear to play a role in causing ulcerative colitis, certain foods may cause more symptoms when your disease is active. The doctor may suggest diet changes, depending on the patient symptoms. They may also recommend vitamins or nutritional supplements.[1]



4.2 SURGERY FOR ULCERATIVE COLITIS

Ulcerative colitis (UC) is a chronic (long-term) inflammatory disease. It affects the lining of the large intestine, or colon, and rectum. You may need surgery if: [2]

❖ Other medical treatment, including medication, hasn't helped. There may be a risk of cancer without surgery.

❖ The colon has ruptured.

❖ The patient has a severe, sudden onset of the disease.

❖ There's a lot of bleeding.

❖ Treatment causes side effects severe enough to weaken the patient's health.

❖ Toxic mega colon has set in. In this dangerous condition, the muscles of the large intestine are dilated, and the colon can rupture.

2What Types of Surgery Can Treat Ulcerative Colitis?

There are different procedures. All are major surgery on the digestive system. Talk with your doctor about which one they recommend for you.

Hemicolectomy.

This is an operation that removes part of your colon. There are two types, depending on where your problem area is:

- Right hemicolectomy: Removes the right, or ascending, part of your colon. The surgeon may also take out some other areas, like your appendix and part or all of your middle large intestine. They'll connect what's left of your colon to your small intestine.
- Left hemicolectomy: Removes the left, or descending, part of your colon. The surgeon will attach the right and middle parts to your rectum. This is the last place your bowel movements pass through on their way out.[1]

Colectomy.

This is surgery to remove the entire colon.

Proctocolectomy.

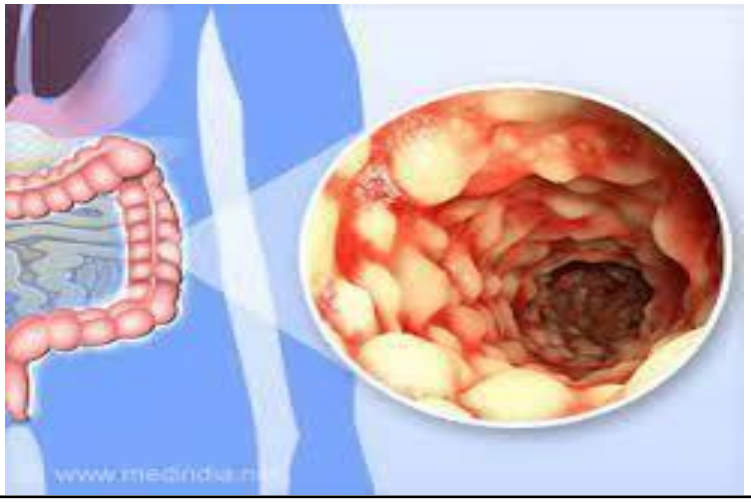
This procedure removes both the colon and rectum.

Proctocolectomy is considered the standard treatment when surgery for ulcerative colitis is needed.

If the entire colon is removed, the surgeon may create an opening, or stoma, in the abdominal wall. The tip of the lower small intestine is brought through the stoma. An external bag, or pouch, is attached to the stoma. This is called a **permanent ileostomy.** Stools pass through this opening and collect in the pouch. The pouch must be worn at all times.

Another procedure is the pelvic pouch or ileal pouch anal anastomosis (IPAA). This procedure doesn't require a permanent stoma. This surgery is also called a restorative proctocolectomy. The patient is still able to eliminate stool through the anus. The colon and rectum are removed, and the small intestine is used to form an internal pouch or reservoir -- called a J-pouch -- that will serve as a new rectum. This pouch is connected to the anus. This procedure is frequently done in two operations. In between the operations, you'd need a temporary ileostomy. [2]

The continent ileostomy, or Kock pouch, is an option for people who would like their ileostomy converted to an internal pouch. It's also an option for people who aren't able to have IPAA. In this procedure, you'll have a stoma but no bag. The colon and rectum are removed, and an internal reservoir is created from the small intestine. An opening is made in the abdominal wall, and the reservoir is then joined to the skin with a nipple valve. To drain the pouch, the patient inserts a catheter through the valve into the internal reservoir. This procedure isn't the preferred surgical treatment for ulcerative patients. It has uncertain results and may result in the need for more surgery.



4.3 RECOVERY

Hemicolectomy. Expect to stay in the hospital for at least a few days after surgery. But the patient could be there for up to a week. IV fluids will keep the patient hydrated right after the operation. The patient be on a liquid diet for 1-3 days. Medicine will help with pain, but the patient probably wouldn't want to do normal activities for a couple of weeks. If you have the open kind, it might take longer. Your doctor will probably tell the patient not to lift anything heavy for 6 weeks.

The patient should be able to eat and go to the bathroom as normal after the patient recover. But everyone heals at their own pace, so take it easy until you feel better. The patient should ask there doctor what to expect.

What to Eat After Surgery

The patient should ask their doctor when it's safe to eat solid meals. It will take some time for your intestines and gut bacteria to digest food as normal. While the patient recover, the patient colon may also have trouble absorbing water. Make sure to drink 8-10 glasses of water or other fluid a day.[1] The patient might have:

- Diarrhea or more bowel movements
- Dehydration
- Smelly or frequent gas

To give the patient gut a rest, your doctor may have you follow a low-residue diet for about 4-6 weeks. This will make the patient have smaller bowel movements and go less often. It cuts out most fiber as well as some dairy.

Complications of Surgery :

The surgery prevents colon cancer. Overall, an estimated 5% of ulcerative colitis patients will get cancer. Removing the colon cancer threat is especially significant for people who have ulcerative colitis that affects the entire colon. In these cases, as opposed to cases of ulcerative colitis that affect only the lower colon and the rectum, the cancer risk without surgery could be up to 32 times the normal rate.[2] **Schedule of periodic examination for inflammation or colon cancer**

Adults at risk of developing colorectal cancer should have regular screening with either a highly sensitive stool-based test or a structural examination depending on patient preference and test availability. Screening options include:

Chemical stool test - annually. Blood test - annually.

Stool DNA test - every three years.
Colonoscopy - every 10 years

CT scan - every five years.

Flexible X-ray endoscope - every five years.

Cases of Ulcerative Colitis

Case presentation (1)

The patient presented with frequent passage of blood stained stool, abdominal pain and significant weight loss. The diagnosis was entertained after she was investigated for common causes of chronic diarrhea in our setting and the findings were negative. The patient symptoms abated after she was commenced on steroid therapy.

Case presentation (2)

A 7 year old girl presented to the paediatric gastroenterology clinic at the Lagos State University Teaching Hospital (LASUTH), Ikeja with a history of prolonged diarrhoea of 10 weeks that progressed to frank haematochezia 2 weeks later. She also presented with abdominal pain weight loss of over 8 weeks duration. Stool was initially watery, not offensive or mucoid. Bowel motions were about 10 times per day.

Case presentation (3)

A 53-year-old man was transferred from a local hospital for steroid-resistant UC. He was diagnosed with UC (proctitis type) at the age of 48 and maintained remission for 5 years. He was admitted to the local hospital complaining of worsening abdominal pain and bloody diarrhea. Colonoscopy showed that inflammation extended to the whole colon, and he was treated with medication consisting of 5-ASA, granulocytapheresis (twice a week), and high-dose prednisolone (1.0 mg/kg/day), but bloody diarrhea did not improve, and anemia progressed such that blood transfusions were necessary.

Case presentation (4)

A 64-year-old man was transferred from a local hospital for steroid-resistant UC. He was diagnosed with UC (left-sided colitis type) at the age of 63 and was treated with 5-ASA, which induced remission. Eight months later, he had a relapse of the disease in association with fever, abdominal pain, and bloody diarrhea. He was admitted to the hospital and treated with leukocytapheresis (two sessions per week, four sessions in total), high-dose prednisolone (1.0 mg/kg/day), and steroid pulse therapy (hydrocortisone 1,000 mg/day for 3 days), but his symptoms did not improve. When he was referred to our hospital, he was having bloody diarrhea 10 times a day and abdominal pain, and his temperature was 39.0°C. The results of the blood examination were: white blood cells 110,500 µl, hemoglobin 7.0 g/dl, serum albumin 1.0 g/dl, and C-reactive protein 5.1 mg/dl. Plain X-ray revealed dilatation of the transverse colon reaching diameters of 5.0 cm (fig. 2a). Because we were concerned about progression to toxic megacolon, we continued medical treatment in cooperation with the surgeons.

Conclusion & Recommendation

1. Ulcerative colitis (UC) is a long-term condition that results in inflammation and ulcers of the colon and rectum. The primary symptoms of active disease are abdominal pain and diarrhea mixed with blood. Weight loss, fever, and anemia may also occur. Often, symptoms come on slowly and can range from mild to severe. Symptoms typically occur intermittently with periods of no symptoms between flares. Complications may include abnormal dilation of the colon (mega colon), inflammation of the eye, joints, or liver, and colon cancer.

2. The cause of UC is unknown. Theories involve immune system dysfunction, genetics, changes in the normal gut bacteria, and environmental factors. Rates tend to be higher in the developed world with some proposing this to be the result of less exposure to intestinal infections, or to a Western diet and lifestyle. The removal of the appendix at an early age may be protective. Diagnosis is typically by colonoscopy with tissue biopsies. It is a kind of inflammatory bowel disease (IBD) along with Crohn's disease and microscopic colitis.

3. Dietary changes, such as maintaining a high-calorie diet or lactose-free diet, may improve symptoms.

Several medications are used to treat symptoms and bring about and maintain remission, including aminosalicylates such s mesalazine or sulfasalazine, steroids, immunosuppressants such as azathioprine, and biologic therapy. Removal of the colon by surgery may be necessary if the disease is severe, does not respond to treatment, or if complications such as colon cancer develop. Removal of the colon and rectum generally cures the condition.

4. Together with Crohn's disease, about 11.2 million people were affected as of 2015. Each year it newly occurs in 1 to 20 per 100,000 people, and 5 to 500 per 100,000 individuals are affected. The disease is more common in North America and Europe than other regions. Often it begins in people aged 15 to 30 years, or

among those over 60. Males and females appear to be affected in equal proportions. It has also become more common since the 1950s. Together, ulcerative colitis and Crohn's disease affect about a million people in the United States.

5. Unlike in Crohn's disease, the gastrointestinal aspects of ulcerative colitis can generally be cured by surgical removal of the large intestine, though extraintestinal symptoms may persist. This procedure is necessary in the event of: exsanguinating hemorrhage, frank perforation, or documented or strongly suspected carcinoma. Surgery is also indicated for people with severe colitis or toxic megacolon. People with symptoms that are disabling and do not respond to drugs may wish to consider whether surgery would improve the quality of life.

6. early diagnosis more helpful medical treatment is better early case surgery is better in emergency cases when investigate

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