ULCERATIVE COLITIS

What is Ulcerative Colitis?

Ulcerative colitis is a chronic inflammation of the large intestine (colon). In patients with ulcerative colitis, ulcers and inflammation of the inner lining of the colon lead to symptoms of abdominal pain, diarrhea, and rectal bleeding. Ulcerative colitis is closely related to another condition of inflammation of the intestines called Crohn's disease. Together, they are frequently referred to as inflammatory bowel disease (IBD). Ulcerative colitis includes characteristic ulcers or open sores.
Ulcerative colitis is an intermittent disease, with periods of exacerbated symptoms, and periods that are relatively symptom-free. Although the symptoms of ulcerative colitis can sometimes diminish on their own, the disease usually requires treatment to go into remission.

Causes:

The cause of ulcerative colitis is not known. To date, there has been no convincing evidence that it is caused by infection or is contagious.Ulcerative colitis likely involves abnormal activation of the immune system in the intestines. The immune system is composed of immune cells and the proteins that these cells produce. These cells and proteins serve to defend the body against harmful bacteria, viruses, fungi, and other foreign invaders. Activation of the immune system causes inflammation within the tissues where the activation occurs. (Inflammation is, in fact, an important mechanism of defense used by the immune system.) Normally, the immune system is activated only when the body is exposed to harmful invaders. In patients with ulcerative colitis, however, the immune system is abnormally and chronically activated in the absence of any

known invader. The continued abnormal activation of the immune system causes chronic inflammation and ulceration. The susceptibility to abnormal activation of the immune system is genetically inherited.

There are many predisposing factors such as genetics and stress.

- **Genetic factors**
- **Environmental factors**
- **Autoimmune disease :** Ulcerative colitis is an autoimmune disease characterized by T-cells infiltrating the colon

Signs and symptoms:

Gastrointestinal

Common symptoms of ulcerative colitis includes

- Diarrhea mixed with blood and mucus , of gradual onset that persists for an extended period (weeks).
- Weight loss and blood on rectal examination.
- Chronic loss of blood from the GI tract leads to anaemia .
- Different degrees of abdominal pain, from mild discomfort to painful bowel movements or painful abdominal cramping with bowel movements.

Extraintestinal features

Ulcerative colitis is associated with a general inflammatory process that affects many parts of the body. As ulcerative colitis is believed to have a systemic (i.e., autoimmune) origin, patients may present with comorbidities leading to symptoms and complications outside the colon. These include the following
:

- Aphthous ulcer of the mouth
- Musculoskeletal:
- Seronegative arthritis , which can be a large-joint oligoarthritis (affecting one or two joints), or may affect many small joints of the hands and feet

- Ankylosing spondylitis , arthritis of the spine
- Sacroiliitis , arthritis of the lower spine

- Deep venous thrombosis and pulmonary embolism
- Autoimmune hemolytic anemia
- Clubbing , a deformity of the ends of the fingers.
- Primary sclerosing cholangitis , a distinct disease that causes inflammation of the bile ducts

Generally, patients with inflammation confined to the rectum and a short segment of the colon adjacent to the rectum have milder symptoms and a better prognosis than patients with more widespread inflammation of the colon. The different types of ulcerative colitis are classified according to the location and the extent of inflammation:

1. Ulcerative proctitis .
2. Proctosigmoiditis
3. Left-sided colitis
4. Pancolitis or universal colitis
5. Fulminant colitis

Diagnosis:

I. The **initial diagnostic workup** for ulcerative colitis includes the following:

A complete blood count is done to check for anemia; thrombocytosis , a high platelet count, is occasionally seen

- Electrolyte studies and renal function tests are done, as chronic diarrhea may be associated with hypokalemia , hypomagnes

emia and pre-renal failure.

- Liver function tests are performed to screen for bile duct involvement: primary sclerosing cholangitis.
- X-ray
- Urinalysis
- Stool culture, to rule out parasites and infectious causes.
- Erythrocyte sedimentation rate can be measured, with an elevated sedimentation rate indicating that an inflammatory process is present.
- C-reactive protein can be measured, with an elevated level being another indication of inflammation.
- There is some evidence that a stool test for a protein called calprotectin

II. Confirmation of ulcerative colitis requires a test to visualize the large intestine. Flexible in serted through the rectum
(
sigmoidoscopes
and colonoscopes
)
permit direct visualization of
the inside of the colon to establish the diagnosis and to determine the extent of the colitis. Small
tissue samples (biopsies) can be obtained during the procedure to determine the severity of the colitis.
In cases where the clinical picture is unclear, the histomorphologic analysis often plays a pivotal role in determining the diagnosis and thus the management. By contrast, a biopsy analysis
may be indeterminate, and thus the clinical progression of the disease must inform its treatment.

Complications of ulcerative colitis :

Blood transfusions, pancolitis, and toxic megacolon.
Serious complications are rare in these patients. In those with more extensive disease, blood loss from the inflamed intestines can lead to anemia and may require treatment with iron supplements or even blood transfusions

.
Rarely, the colon can acutely dilate to a large size when the inflammation becomes very severe. This condition is called toxic megacolon. Patients with toxic megacolon are extremely ill with fever, abdominal pain and distention, dehydration, and malnutrition. Unless the patient improves rapidly with medication, surgery usually is necessary to prevent colonic ruptur
e.

Cancers:

Colon cance r is a recognized complication of chronic ulcerative colitis.

Management:

Standard treatment for ulcerative colitis depends on extent of involvement and disease severity. The goal is to induce remission initially with medications, followed by the administration of maintenance medications to prevent a relapse of the disease. The concept of induction of remission and maintenance of remission is very important. The medications used to induce and maintain a remission somewhat overlap, but the treatments are different. Physicians first direct treatment to inducing a remission which involves relief of symptoms and mucosal healing of the lining of the colon and then longer term treatment to maintain the remission and prevent complications .

Medication:

Ulcerative colitis can be treated with a number of medications including 5-ASA drugs such as Sulfasalazine and Mesalazine . Corticosteroids suc h as
prednisone
can also be used due to their immunosuppressing and short term healing properties, but due to the risks outweighing the benefits, they are not used long term in treatment. Immunosuppressive medications such as
azathioprine
, and biological agents such as
infliximab
and
adalimumab
are given lastly, only if patients cannot achieve remission with 5-ASA and Corticosteroids, due to their possible risk factors, including, but not limited to increased risk of cancers in teenagers and adults,

TB
and new or worsening
heart failure
. (These side effects are rare.)

Surgery:

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

Another surgical option for ulcerative colitis that is affecting most of the large bowel is called the ileo-anal pouch procedure. This procedure is a two to three step procedure in which the large bowel is removed, except for the rectal stump and anus, and a temporary ileostomy is made. The next part of the surgery can be done in one or two steps and is usually done at six to twelve month intervals from each prior surgery.

In the next step of the surgery an internal pouch is made of the patients' own small bowel and this pouch is then hooked back up internally to the rectal stump so that patient can once again have a reasonably functioning bowel system, all internal. The temporary ileostomy can be reversed at this time so that the patient is now internalized for bowel functions, or in another step to the procedure, the pouch and rectal stump anastamosis can be left inside the patient to heal for some time, while the patient still uses the ileostomy for bowel function. Then on a subsequent surgery the ileostomy is reversed and the patient has internalized bowel function again.