## Crohn's Disease

Crohn's disease is one form of an inflammatory bowel disease (IBD) that most often affects the ileum (last portion of the small bowel) and the colon. It is a chronic, recurrent inflammatory disorder that begins as small areas of inflammation in the bowel. Over time, the inflammation extends deep into the intestinal wall. The lining of the bowel can become ulcerated and the bowel wall thickened. Eventually, the bowel may become narrowed. Another cause of IBD, ulcerative colitis, is closely related to Crohn's disease and has many of the same symptoms. However, with Crohn's disease all layers of the intestine may be involved and there can be normal healthy bowel between patches of diseased bowel. Ulcerative colitis is limited to the colon and affects only the superficial layers in a more even and continuous distribution.

### Causes

After many years of research, the cause of Crohn's disease is still unknown. It is known that the body's immune system is a factor. Normally, the immune system protects the body from infection. In people with Crohn's disease, the immune system reacts to food, bacteria or other materials in the intestine as if it were a foreign substance and sends white blood cells into the lining of the intestines to attack it. The white blood cells then cause chronic inflammation leading to ulceration and bowel injury.

### Symptoms

The most common symptoms of Crohn's disease are abdominal pain, often in the lower right abdomen, and diarrhea. Rectal bleeding, weight loss, and fever may also occur. Bleeding may be serious and persistent, leading to anemia. Children with Crohn's disease may suffer delayed development and stunted growth.

### Diagnosis

There is no conclusive diagnostic test for Crohn's disease. Physicians use a series of tests to assess the patient's overall condition and then make a diagnosis. Blood tests may be done to check for anemia, which could indicate bleeding in the intestines. Blood tests may also uncover a high white blood cell count, which is a sign of inflammation somewhere in the body. A stool sample may be tested for bleeding or infection in the intestines.

Often the best way to diagnose the disease is by a visual examination of the lining of the rectum and lower bowel (sigmoidoscopy), or a more extensive exam of the entire colon (colonoscopy).

### Complications

A common complication of Crohn's disease is blockage of the intestine. Blockage occurs when the intestinal wall thickens from swelling and scar tissue. Crohn's disease often causes sores, or ulcers, that tunnel through the affected area into surrounding tissues such as the bladder, vagina or skin. The areas around the anus and rectum are often involved. These tunnels, called fistulas, often become infected. Sometimes fistulas must be surgically removed.

Crohn's patients are inclined to nutritional deficiencies of proteins, calories and vitamins. These deficiencies may be caused by inadequate dietary intake or poor absorption.

Other complications associated with Crohn's disease include arthritis, skin problems, inflammation in the eyes or mouth, kidney stones, gallstones, or diseases of the liver and biliary system.

## Treatment

At this time, effective medical and surgical treatment is available for patients with Crohn's disease, but there is no cure. The goals of treatment are to control inflammation, correct nutritional deficiencies and relieve symptoms like abdominal pain, rectal bleeding and diarrhea. Patients with Crohn's disease might be treated with a combination of drugs, nutritional supplements and surgery. Some people have long periods of remission when they are free of symptoms. However, the disease usually recurs at various times over a person's lifetime. Because of the unpredictable nature of the disease, it is often hard to determine if a treatment has helped.

Patients with Crohn's disease usually need long term medical care to monitor and control the condition.

## Drug Therapy

Medications commonly used to treat Crohn's disease include:

- Cortisone or Steroids. These drugs are the most effective for controlling inflammation when the disease is active. Because they can cause serious side effects, the goal is to use a high dose initially and taper off to a maintenance dose. In some cases the drug can be discontinued when the disease is in remission.
- Anti-inflammation Drugs. Drugs containing mesalamine, a substance that helps control inflammation, are often used. Patients who do not benefit or cannot tolerate it may be put on other mesalamine-containing drugs, generally known as 5-ASA agents. Possible side effects include nausea, vomiting, heartburn, diarrhea and headache.
- Immune System Suppressors. A Crohn's patient's immune system is often over-active. Immunosuppressive drugs work by blocking the immune reaction that contributes to inflammation. These drugs also may cause side effects like nausea, vomiting and diarrhea and may lower a person's resistance to infection. When a combination of corticosteroids and immunosuppressive drugs are used for treatment, the dose of corticosteroids can eventually be lowered.

Infliximab has been approved for the treatment of moderate to severe Crohn's disease that does not respond to standard therapies and for the treatment of open, draining fistulas. Infliximab is an anti-tumor necrosis factor (TNF) substance. TNF is a protein produced by the immune system that may cause the inflammation associated with Crohn's disease. Infliximab removes TNF from the bloodstream before it reaches the intestines, thereby preventing the inflammation. Investigators will continue to study patients taking Inflixamab to determine its long-term safety and effectiveness.

## Surgery

Sometimes surgery to remove part of the intestine is necessary to either relieve symptoms that do not respond to medical therapy or to correct complications such as blockage, perforation, abscess or bleeding. Surgery does not, however, cure Crohn's disease.

## Summary

People with Crohn's disease may feel well and be free of symptoms for substantial spans of time when their disease is not active. Despite the need to take medication for long periods of time and occasional hospitalizations, most people with Crohn's disease are able to work, raise families and function successfully throughout their lifetime.

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