

Crohn's disease: A gastrointestinal disorder

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Crohn's disease, also known as inflammatory bowel disease, regional enteritis, and granulomatous ileocolitis disease is an inflammatory disease of the intestines that may affect any part of the gastrointestinal tract from mouth to anus, causing a wide variety of symptoms. It primarily causes abdominal pain, diarrhoea, vomiting, or weight loss, but may also cause complications outside of the gastrointestinal tract such as skin rashes, arthritis, inflammation of the eyes, tiredness, and lack of concentration. Crohn's disease is thought to be an autoimmune disease, in which the body's immune system attacks the gastrointestinal tract, causing inflammation; it is classified as a type of inflammatory bowel disease. There has been evidence of a genetic link to Crohn's disease, putting individuals with siblings afflicted with the disease at higher risk (Baumgart and Sandborn, 2007).

Males and females are equally affected. Smokers are two times more likely to develop Crohn's disease. Crohn's disease has a bimodal distribution in incidence as a function of age: the disease tends to strike people in their teens and 20s, and people in their 50s through to their 70s, and ages in between due to not being diagnosed with Crohn's and being diagnosed instead with irritable bowel syndrome. The disease was named for American gastroenterologist Bernard Crohn, who in 1932, described a series of patients with inflammation of the terminal ileum, the area most commonly affected by the illness (Wu *et al.*, 2010).

It usually strikes females who are pediatric patients

more severely than males. Parents, siblings or children of people with Crohn's disease are 3 to 20 times more likely to develop the disease. Crohn's disease is one type of inflammatory bowel disease. *i.e.* Ileocolic Crohn's disease, Crohn's ileitis and Crohn's colitis. Crohn's disease may also be categorized by the behaviour of disease as it progresses: Strictureing disease, penetrating disease and inflammatory disease (Gasche *et al.*, 1998).

The usual onset is between 15 and 30 years of age but can occur at any age. Because of the 'patchy' nature of the gastrointestinal disease and the depth of tissue involvement. Abdominal pain is often most severe in areas of the bowel with stenoses. In the setting of severe stenosis, vomiting and nausea may indicate the beginnings of small bowel obstruction (Wu *et al.*, 2010).

Perianal discomfort may also be prominent in Crohn's disease. Itchiness or pain around the anus may be suggestive of inflammation, fistulization or abscess around the anal area or anal fissure. Crohn's disease is associated with a type of rheumatologic disease known as seronegative spondyloarthropathy. Crohn's disease may also involve the skin, blood, and endocrine system. One type of skin manifestation, erythema nodosum, presents as red nodules usually appearing on the shins. Erythema nodosum is due to inflammation of the underlying subcutaneous tissue and is characterized by septal panniculitis. Clubbing, a deformity of the ends of the fingers, may also be a result of Crohn's disease. Crohn's disease can also cause neurological

complications like seizures, strokes, myopathy, peripheral neuropathy, headache and depression (Anonymous, 2007).

The disease runs in families and those with a sibling the disease are 30 times more likely to develop it than the normal population. Mutations in the NOD2/CARD15 gene (Cathapse Activation Recruitment Domain) are associated with Crohn's disease and with susceptibility to certain phenotypes of disease location and activity (Ogura *et al.*, 2001).

A positive correlation has been found between the incidence of the disease and an increased intake of animal protein, milk protein and an increased ratio of n-6 to n-3 polyunsaturated fatty acids. Negative correlation of the disease incidence was found to the increased consumption of vegetable protein, and no correlation to fish protein. Abnormalities in the immune system have often been involved as being causes of Crohn's disease. Crohn's disease is thought to be an autoimmune disease, with inflammation stimulated by an over-active T_H1 cytokine response. *Mycobacterium avium subspecies paratuberculosis* (MAP) plays a role in Crohn's disease, in part because it causes a very similar disease, Johne's disease, in cattle (Naser and Collins, 2005).

Crohn's disease can lead to several mechanical complications within the intestines, including obstruction, fistulae, and abscesses. A colonoscopy is the best test for making the diagnosis of Crohn's disease as it allows direct visualization of the colon and the terminal ileum, identifying the pattern of disease involvement. As 30 per cent of Crohn's disease involves only the ileum, cannulation of the terminal ileum is required in making the diagnosis. A barium follow-through x-ray, wherein barium sulphate suspension is ingested and fluoroscopic images of the bowel are taken over time, is useful for looking for inflammation and narrowing of the small bowel (Hara *et al.*, 2006). Certain lifestyle changes can reduce symptoms, including dietary adjustments, proper hydration and smoking cessation. Eating small meals frequently instead of big meals may also help with a low appetite. To manage symptoms have a balanced diet with proper portion control. Fatigue can be helped with regular exercise, a healthy diet and enough sleep. A food diary may help with identifying foods that trigger symptoms. Some patients should follow a low dietary fibre diet to control symptoms especially if fibrous foods cause symptoms Crohn's disease can manage their problem by following ways-

- Drink lots of fluid (8 - 10 servings daily) to keep body hydrated and prevent constipation.
- Take multivitamin-mineral supplement to replace lost nutrients.
- Eat a high fibre diet when inflammatory bowel syndrome is under control. Some patients find cooking and steaming the vegetables more tolerable than eating them raw.
- During a flare up limit high fibre foods and follow a

low fibre diet to give the bowel a rest and minimize symptoms.

- Avoid lactose containing foods such as dairy if individual has lactose intolerance or may use lactase enzymes and lactase pretreated foods.
- It is very important to continue nourishing the body even during a flare-up. Try small frequent meals. Eating a high protein diet with lean meats, fish and eggs, may help relieve symptoms of Crohn's.
- One should take pre-digested nutritional drinks (elemental diet) to give bowel a rest and replenish lost nutrients so that the body can repair itself.
- Limit caffeine, alcohol and sorbitol as these may exacerbate Crohn's symptoms.
- Limit gas producing foods such as cabbage family vegetables (broccoli, cabbage, cauliflower and brussels sprouts), dried peas and lentils, onions, peppers and carbonated drinks.
- Reduce fat intake if part of the intestines has been surgically removed. High fat foods usually cause diarrhoea.
- If the ileum has been resected then Vitamin B₁₂ injection is required (Fries and Nazario, 2007).

So, it is concluded that Crohn's disease is an emerging chronic gastrointestinal disease which affects the intestine of the individual characterized by remissions and relapses and continues through adulthood. Multidisciplinary management including the prevention and treatment is essential. In particular, glucocorticoids and other medicines should be used in the minimum effective dosage, smoking cessation should be encouraged.

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