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**Lecturer name: Leila Surani**

**Student name: Mirish Salieva**

**Student code: 1913122**

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## **Introduction**

### **Crohn's disease**

Crohn's disease is one of several disorders known as inflammatory bowel disease (IBD). It is named after Dr. Burrill B. Crohn, who, along with Dr. Leon Ginzburg and Dr. Gordon D. Oppenheimer, identified the disease for the first time in 1932 (Crohn's and Colitis Foundation, 2019). Crohn's disease and Ulcerative Colitis are both types of inflammatory bowel disease (IBD). Crohn's Disease (CD) is one of the two most common types of inflammatory bowel disease (IBD). CD can affect any area of the gut; however, it is most found in the ileum (the last section of the small intestine) or the colon. Inflammation is frequently patchy, with portions of normal stomach in between. Area of inflammation may be modest, only a few millimetres broad, or it may run the length of the stomach. CD can impact the intestinal lining as well as infiltrate further into the colon wall, creating abscesses and fistulas (abnormal tracts or passages between organs such as between two sections of bowel, or the bowel and skin) (www.ibdclinic.ca, 2022).

### **Anatomy and Physiology of Crohn's disease**

Crohn's disease is a chronic gastrointestinal inflammation. Crohn's disease is one of several kinds of inflammatory bowel disease, sometimes known as IBD. IBD is also known as ulcerative colitis (UC). Crohn's disease can affect any portion of the digestive tract, from the mouth to the anus, although it most usually affects the end of the small intestines called the terminally ileum and the beginning of the large intestine called the cecum. The inflammation may spread deep into the tissues of the damaged organ (eMedicineHealth, n.d.).

The intestinal epithelium is relatively flat in the colon but displays luminal projections in the ileum because of the villi, which resemble fingers. In addition, microvilli, the apical protrusions of epithelial cells, are a feature of the small intestine that aid in nutritional absorption. The large intestine is responsible for fermentation and water absorption, while the small intestine is responsible for nutrient absorption (Pierre et al., 2021).

The gut is the body's primary entry point to the outside world and is thus subjected to a high concentration of bacteria. Tolerance and immune system maturity are promoted through a fundamental mechanism in which some pathogens are excluded from the gut mucosa through complex cellular processes while others are allowed entrance. Relationships between the host and its commensal, symbiotic, and parasitic microbiota evolved together with the host. Intense bargaining between the host and its microbes results in a highly regulated gut lining. The microbiota is shaped by a feedback loop in which the host immune response affects the bacteria. These intricate relationships between host and bacteria developed in different parts of the gastrointestinal system. In addition, the small and large intestines are treated as separate locations by the immune system (Pierre et al., 2021).

A thorough examination of all chronic inflammatory illnesses of the gastrointestinal tract reveals one common denominator: an unbalanced gut flora that provides a very acidic environment that promotes the multiplication of microorganisms that severely stress the immune system. Inflammation causes ulcers and serious damage to the gut walls over time, preventing appropriate nutrient absorption. The small intestine and colon have a high rate of regeneration. (In comparison to most other tissues) Regeneration of gastrointestinal tissue is a viable process, even under impossible conditions, given simply a natural and varied diet, no medication, restoration of intestinal flora, and a resumed flow of bile to the duodenum (SF Healing Diseases and Addictions, n.d.).

## **Potential mechanisms underlying the effects of psychological stress on patients with Crohn's disease**

### **Nonspecific Effects**

It is possible that some of the symptoms associated with IBD are caused by changes in stomach (GI) function that are brought on by stress. The enteric nervous system (ENS) and its spinal and autonomic connections to the central nervous system are both connected to the brain-gut axis, which is a highly innervated nerve plexus linking the two systems. The motor, sensory, and secretory functions of the digestive system, in addition to the pain threshold, are all able to be directly or indirectly influenced by the psychological and emotional stress that is experienced via this axis (Sajadinejad et al., 2012). These activities are mediated by various neuropeptides, neurotransmitters, and hormones, including substance P (SP), vasoactive intestinal protein, and substance P (SP). The hormone known as corticotropin-releasing factor, or CRF, is released in response to stress from either the central or peripheral nervous systems (hypothalamus and adrenal cortex, resp.). Peripheral CRF has a direct influence on the motility of the gastrointestinal tract, while central CRF is responsible for regulating the route between ACTH and cortisol. The endogenous CRF is responsible for mediating the stress-induced reduction of the motility of the upper gastrointestinal tract and the stress-induced enhancement of the motility of the colon. Therefore, when symptoms such as stomach discomfort and changes in bowel function occur in IBD without significant disease activity, it is possible that they are attributable, at least in some cases, to variations in motor and sensory function due to psychological stress. This is because IBD is a condition that affects the gastrointestinal tract (Sajadinejad et al., 2012).

As was said before, the alarmingly increasing prevalence of mental illnesses is a significant problem that needs particular attention. It is very necessary for gastroenterologists and psychiatrists to work together due to the significant influence that mental diseases have on the development of disease, recurrence rates, treatment results, and overall quality of life. Irritable bowel syndrome (IBD) patients' mental health conditions have to be screened for as part of their medical treatment for IBD. The therapy for inflammatory bowel disease (IBD) may be successful if it results in a remission of both psychological and physical symptoms (Askar et al., 2021).

### **Lifestyle impact**

Environment and lifestyle probably play a big role in how likely someone is to get Crohn disease. Studies have shown that smoking cigarettes makes it twice as likely that a person will get this disease, and it may also be a reason why signs and symptoms come back from time to time. Crohn's disease is more common in cities, which suggests that industrialization and better sanitation may also play a role. Some parts of a person's diet, like sugar, fats, and fibre, have also been thought to affect their risk of getting Crohn disease. Many of the possible lifestyle and environmental risk factors probably have something to do with abnormal inflammation, either directly or indirectly. But the exact link between these things and the risk of Crohn disease is still not clear (medlineplus.gov, n.d.). The disease Crohn's was once thought to be caused by things like diet and stress. We now know that there is no single aetiology for Crohn's disease and that the ailment has numerous etiologists. Evidence reveals a complex interplay of risk factors, including genetics, a faulty immunological response, and environmental exposures, in the aetiology of the disease. But one might not have Crohn's even if they have every risk factor (Watt, 2017).

## **Genetic factors of Crohn's disease**

Based on epidemiological, genetic, and immunological evidence, we can conclude that inflammatory bowel diseases are complex disorders in which heritability and environment interact to cause the disease. Patients are most likely predisposed to the condition due to a genetic predisposition and immunoregulation disruptions. So far, several genes have been linked to Crohn's disease diagnosis. These genes are associated with innate pattern recognition receptors, epithelial barrier homeostasis and barrier integrity, autophagy, and lymphocyte differentiation. So far, the NOD2, IL23R, and ATG16L1 genes have shown the strongest and most consistent links with Crohn's disease. Many genes have been linked in Crohn's disease prognosis, and numerous attempts have been made to define genetic profiles in Crohn's disease (Tsianos, 2012).

## **Health measurement**

In order to assess the influence of inflammatory bowel disease on health-related quality of life, the Short Health Scale (SHS) was developed. The SHS is a four-item visual analogue scale questionnaire with open-ended questions. There are four factors to consider: gastrointestinal distress, regular activities, worries, and general health. Quality of life in terms of health is becoming increasingly relevant in IBD studies and treatments (McDermott et al., 2013). We found that the SHS correlates well with other validated quality of life questionnaires, and other researchers have found similar results, suggesting that the SHS is a simple, brief, valid, and reliable assessment of health status in IBD patients. In contrast to in-depth questions on several aspects of quality of life, it is unclear whether a single question like "How do you feel in general?" gives an appropriate measurement of true wellbeing. Conversely, the expansive and nuanced nature of the quality-of-life construct makes it highly improbable that even a long series of precise questions within four quality of life categories can capture all of its elements. After doing a thorough biological, psychological, and social analysis, it may be possible to find some of these answers (McDermott et al., 2013).

## **Health and Social care and Crohn's disease**

The health and social demands of IBD patients were identified through the synthesis of qualitative investigations, and important difficulties arose. People with Crohn's disease face numerous daily obstacles, including stress, pain, and fatigue, as well as the struggle to maintain normalcy. The overall impact of living with IBD is the tension that these people experience. The usefulness of meta synthesis is the interpretation of all synthesised studies to create an all-inclusive portrayal of IBD living: "Pushed and pulled: a compromised life," persons with Crohn's face a constant conflict throughout their lives; they strive to be normal, yet IBD drags them back (Kemp, 2012). Health and Care people with chronic conditions like IBD must learn self-management while having a network of support and fast access to care and assistance when ill. The IBD specialist nurse or health care provider serves a crucial liaison role with the patient, acting as their advocate during MDT meetings and ensuring that the focus is on managing IBD in the context of the patient's life, as opposed to disease activity alone (Panés et al., 2014).

## **Recommendations**

### **Bowel Research UK**

Bowel Research UK was established in 2020 as a result of the merger of two prestigious charities: Bowel & Cancer Research and Bowel Disease Research Foundation. Together, the two organisations have over 50 years of expertise in funding cutting-edge research and making great strides in the battle against colon cancer and other bowel illnesses (Bowel Research UK, n.d.).

### **Crohn's and Colitis Organisation**

They interact with thousands of individuals every day, so they are aware of their ability to tell compelling tales that are supported by data and statistics about your lives and what needs to change. However, they are also aware that they do not represent the entirety of our community's experiences because they do not reach every corner of it. Their goal is to fully comprehend your experience so they can effectively advocate on behalf of all people affected by Crohn's and colitis (crohnsandcolitis.org.uk, n.d.)

- They can work and do research on medications to relief the pain
- Invest more to knowledge people to speak about IBD problems
- Introduce natural treatment as the bellow example.

To aid with Crohn's symptoms, strengthen your immune system, or just feel better every day, you might wish to add "complementary" treatments to the medication your doctor recommends. There are numerous choices available, ranging from mindfulness techniques to herbal therapies. But keep in mind to share any new treatments you intend to try with your doctor. They can help you determine what is safe and most likely to be of assistance. This can be changing eating habits, adding probiotic and practicing yoga (WebMD, n.d.).

## **Conclusion**

Inflammation of the digestive tract is a symptom of Crohn's disease, which is a chronic disorder, meaning it lasts for a long time. It is possible for it to be painful, to lower one's quality of life, and to develop consequences that have the potential to be fatal. Medication, learning how to reduce stress, and other strategies can help a person with Crohn's disease manage the symptoms of the disease. There are some patients who require surgical intervention. Till now we know that Crohn's disease currently has no cure; however, medicines and varied care practises can help manage it. Nonetheless, the condition is likely to have an impact on a person's quality of life. A person with Crohn's disease may have a somewhat decreased life expectancy since it raises the likelihood of getting other diseases such as cancer, liver difficulties, biliary tract disorders, and genitourinary tract infections (www.medicalnewstoday.com, 2021).

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