



## CASE REPORT

# Perspectives in the Treatment of Crohn's Disease by a Physician of Family Medicine: A Clinical Case Presentation

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## Abstract

**Background:** Crohn's disease is a rare disease with a chronic relapsing course. Usually begins at a young age influenced by environmental, genetic, and immunological factors. Patients mostly have only intestinal changes. In addition to the gut, other organs, such as skin, joints, liver, and kidneys can be affected. The type of treatment and choice of drugs depends on the type and severity of the disease.

**Objective:** Managing a patient with Crohn's disease requires an individual and holistic approach to treatment by a family physician complemented with good cooperation with gastroenterologists and other clinical specialists. In the process of long-term care family physician provides psychosocial support to the patient in overcoming the disease.

**Discussion:** Here we describe the details of a case with a review of the literature. Based on history taking, physical examination, and investigation, the patient was diagnosed with Crohn's disease.

## Keywords

Crohn's disease, Family medicine, Adolescent, Treatment

digestive tract [5], besides infrequently may affect the stomach and duodenum [3]. But most commonly CD affects the terminal ileum or colon. The most common intestinal symptoms are prolonged continual diarrhea, cramped abdominal spasms [4-6], and symptoms due to complications, particularly after surgical intervention, such as intestinal fistulas and intramural abscesses may form in anal involvement. Severe cases of CD may have the most common complication like intestinal blockage with thickening and fibrosis of the affected segment [5-8].

The symptoms may mimic other intestinal pathologies and may overlap with many abdominal disorders. General symptoms include bloating, constipation, and rectal bleeding, characterized by fatigue, weight loss either due to malabsorption or reduced intake of food due to the patient's fear of pain, and mild fever resulting from inflammation. It may also present with extraintestinal manifestations like skin or mouth lesions, pain in the joints, eye irritation, kidney stones, gallstones, and other diseases of the hepatobiliary system. Severe cases of CD may have the most common complication like intestinal obstruction with thickening and fibrosis of the affected segment [5,7,9].

CD in children and teens generally develops symptoms before the age of 20. Symptoms include watery diarrhea, abdominal pain, weight loss, and slowed growth [9]. The incidence is higher in more

## Introduction

Crohn's disease (CD) is an idiopathic [1], chronic disease [2] that can potentially affect any part from the oral cavity to the rectum [3]. The alimentary system is an interactive complex of glands, tissues, and organs. The esophagus, stomach, small intestine, and large intestine are possible spaces for the inflammation process [4,5]. Inflammation affects all layers of the



**Citation:** Vučkič L, Zadravec E, Rakuša I, Rakuša M (2022) Perspectives in the Treatment of Crohn's Disease by a Physician of Family Medicine: A Clinical Case Presentation. Clin Med Rev Case Rep 9:401. doi.org/10.23937/2378-3656/1410401

**Accepted:** August 17, 2022; **Published:** August 19, 2022

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densely populated areas, those of higher socioeconomic status [10].

Even though in Slovenia CD is one of the quite common diseases the physician in family medicine needs a lot of knowledge to be able to effectively and precisely manage patients with CD because of the diverse clinical picture and treatment [11]. In the basic treatment scheme, the patients start treatment with milder anti-inflammatory drugs, and in addition to their inefficiency, more aggressive drugs such as corticosteroids, immunosuppressants, and biological drugs are added. At the same time treatment primarily with the new biological drugs is becoming more expensive. Surgical treatment is indicated in life-threatening patients with predicted worse prognoses [7,12].

## Case Report

A 22-year-old female was diagnosed with Crohn's disease and intestinal stenosis. She noticed her first health problems at the age of three. She often noticed periods of diarrhea, abdominal pain, fever, poor appetite, fatigue, and sickness, which were occurring alternating with asymptomatic periods. At first, doctors thought that the reason for her problems was either infection by Rotavirus or celiac disease, so they advised her gluten-free diet, which hasn't had any effect on her signs and symptoms. They also advised her to consume only lactose-free products, but she didn't notice any changes after that.

Four years later, at the age of seven, she noticed blood in her stool, so doctors performed an ultrasound, gastroscopy, and colonoscopy and they diagnosed her with Crohn's disease.

At first, at the age of nine, she was treated with Mesalamine (Salofalk), Remicade (INN-infliximab), and Imuran (Azathioprine), which did not improve her health status. Swelling of the mucous membranes in the mouth, inflammation, and bleeding of the gums appeared. Lymphoma was suspected so she began treatment with Medrol, Ciprobay, and Efloran. Fever, immense fatigue, and drowsiness throughout the day were presented all the time. An enteral diet was recommended. Later, at the age of twelve Humira (Adalimumab) was prescribed but again her health status did not improve. Fever and fatigue were still present. At the same time, intestinal stenosis and ileus with complete intestinal obstruction occurred. With balloon dilatations, stenosis was tried to expand and thus avoid the stoma. In the year 2015, she started receiving Entyvo (Vedolizumab). She didn't notice any success after that treatment, but the side effects occurred again. She is currently being treated with Stelara (INN-ustekinumab), which started in the year 2021. Due to complications with abscesses stoma, she requires temporary colostomy, and in case of severe abdominal pain, she takes Medrol (Methylprednisolone). For the protection of the stomach, she also takes Acipan

(proton pump inhibitor).

At the age of 12, she was also diagnosed with osteoporosis, which was a side effect of taking Methylprednisolone. Today she has a diagnosis of osteopenia. In September 2021 she had a colostomy. Her thyroid gland has been visibly enlarged since childhood, but she isn't taking any medication for it, due to her regular check-ups and her thyroid hormone concentrations being within reference values.

Our patient also has problems with reflux. She is allergic to pollen and mites. She is currently feeling good. Once a year she also goes for regular check-ups of ultrasound, colonoscopy, and gastroscopy. Every two years she has magnetic resonance imaging.

## The Previous Investigations of the Patient

The patient's past medical history is significant for chronic inflammatory bowel disease. Past surgical history is unremarkable. The family history is significant for an enlarged thyroid gland since her mother has it too.

## Physical findings

The patient appears appropriate for her stated age, and is alert and oriented to person, place, and time. Skin is found to be pale, warm, and dry, without edema present. The head, eyes, ears, nose, and throat reveal no abnormalities. Pulmonary and cardiovascular systems are within normal limits. The abdomen is observed to be flat and tense with no masses or organomegaly, bowel sounds are present. McBurney's point is negative. Murphy's sign is absent. No hernias are palpated. Rectal examination reveals no fistulas or fissures, there is a good anal sphincter tone, no palpable masses, and no occult blood. A temporary colostomy is placed in the left lower quadrant of the abdomen. There are no gross neurological or musculoskeletal deficits.

## Laboratory, x-ray, and diagnostic findings

Colonoscopy and CT scan were reviewed and suggestive of CD.

## Final diagnosis and management plan

Crohn's disease is the final diagnosis. She continued with Stelara.

## Discussion

Numerous studies suggest that genetic predisposition is involved in the development and course of the disease [7,9,13,14]. Although the causes are not entirely clear. The exact causes of the disease are unknown, it occurred more frequently among relatives. In all developed parts of the world, it is growing rapidly, which speaks to the significant influence of environmental factors [15,16]. The development of disease could be influenced by an immune response [1,7] to the normal intestinal

microbiota [14] and food ingredients in individuals which leads to excessive inflammation [13] in the intestinal mucosa as well as influenced by environmental factors. 25% to 30% of all CD patients become ill during childhood and adolescence [12,15,17]. These data from the literature correspond with the potential cause of our patient's illness. The patient was diagnosed with CD early in childhood, where the genetic cause is excluded, as no one in the family has or has had problems with bowel disease.

Most often patients feel pain in the lower quadrant of the abdomen [3], so they are usually suspected of appendicitis. When only the small intestine is affected, the only leading sign may be weight loss and anemia [7]. Inflammatory changes in the upper gastrointestinal tract may be clinically silent. Patients may report difficulty swallowing, nausea, and vomiting, sometimes the disease begins only with local complications in the form of fissures [7,18] in the mucous membrane of the anus, fistulas, and abscesses. To provide additional information to support the use of our case description, the description contributes with symptoms that appeared suddenly, as well as starting with nausea, vomiting, abdominal pain, and burning irritation of the esophagus, followed by anemia, and blood in the stool. At first, doctors thought she had celiac disease, so they introduced a gluten-free diet, to which she didn't respond, so they refuted their diagnostic hypothesis.

Extraintestinal symptoms and signs are ulcers or sores in the mouth [18], osteoporosis is more common [19], due to inflammation, impaired absorption of iron from the small intestine (malabsorption), and recurrent bleeding. Anemia is often present. Loss of protein, loss of muscle mass due to steroids, poor diet, and poor absorption of nutrients cause weight loss and malnutrition [7,9,18]. Insufficient intake and poor absorption of calcium, deficiency of vitamin D, reduced physical activity, inflammation, long term corticosteroids result in decreased bone formation and mineralization [19]. Our patient was diagnosed with low bone density and osteoporosis, so regular diagnostic monitoring with DEXA (dual-energy x-ray absorptiometry) was introduced. Today, through attempting and preventing further bone damage and with prohibitive the healthiest and best quality of life during recurrence and remission of CD symptoms, osteoporosis has progressed to osteopenia.

The occurrence of CD in childhood causes growth retardation and impaired sexual maturation [7,9,10,17]. Possible causes for growth retardation are nutritional problems resulting from illness, long-term consumption of corticosteroids, and poor diet [7,9]. The negative effects of the disease reduce growth by regulating eating habits. 85.7% of patients with Crohn's disease had menstrual problems, including dysmenorrhea, vaginal bleeding, and secondary amenorrhea. Several studies have reported female infertility as a result of

chronic low-grade inflammation [20]. Our patient had no menstrual problem so far and development proceeded appropriately with puberty.

Due to malnutrition, the treatment also takes longer, as well as recovery after surgery. Nutritional treatment with enteral nutrition plays a special role in the treatment and contains all the substances the body needs. Indications for enteral feeding in CD are prevention and elimination of malnutrition, improving growth and development in children and adolescents [9], improving the quality of life, treatment of the acute phase of the disease, perioperative feeding, and maintaining the dormancy of the disease in the chronic phase of the disease.

When the diagnosis is made it is difficult to predict the progress of the disease. CD is a disease in which inflammation covers all layers of the digestive tract and also expands into neighboring organs. If the inflammation is confined to the intestinal wall and spread into the abscess clinically it is manifested by localized peritonitis, abdominal pain and limited tension of the abdominal wall, and fever. In rare patients, inflammatory activities relax and even fade away but for the most, the disease is progressive with recurrent inflammatory triggers and leads to intestinal complications like stenosis, strictures, fistulas, and abscesses. The characteristics of the fistulas depend on their localization. Fistulas occur when inflammation spreads through all layers of the intestinal wall and penetrates neighboring organs [4,5].

Treatment has several important goals. Managing the symptoms of the disease by reducing inflammation [5], achieving remission of the disease [2], healing the intestinal mucosa [8], reducing or stopping steroid use, reducing the number of hospitalizations and surgeries, and improving the quality of life of the patients. The type of treatment and choice of drugs depends on sites of inflammation, possible additional damage to other organs, general conditions, and age of the patient, as well as the response of the disease to treatment, adverse drug side effects, complications of the disease, and from the patient's personal decisions [7]. Mild forms of Crohn's disease often do not need to be treated, as the patient has no serious problems, and the disease does not cause severe damage. In contrast, the more severe form of Crohn's disease requires prompt treatment, therefore finding out whether the disease will be more severe or milder is very important. To alleviate the problems from the very beginning, corticosteroids are needed. Younger people could suffer from a more severe form of the disease. Patients who smoke have a more difficult course.

Biological drugs are extremely effective for both induction as well as maintaining CD remission [6,21]. According to current treatment guidelines, they are used in those patients who did not respond to standard therapy. Due to important and sometimes dangerous

unwanted effects, the medical condition of the patients receiving biological drugs should be closely monitored [21]. Our patient received three biological drugs, all of which had negative effects, with no improvement in health and well-being. Only a fourth biological drug proved to be appropriate for treating her and relieving her symptoms. Side effects of the medication and inflammation of the bowel resulted in a narrowing of the bowel. Since balloon expansion was not successful, the gastroenterologist decided on a temporary stoma for five years. The stoma itself does not hurt at all, a bit as with other things, the various problem can occur. These can include narrowing of the stoma, sunken stoma, bleeding from the stoma, damage to the mucous membrane of the stoma, blockage of the intestinal stoma, bowel failure, hernia along with the stoma, and quite a few different complications with the skin around the stoma [22].

Living with CD can be stressful, depressing, and frustrating. But there are a variety of things that can improve the quality of life for people with the disease, for example, medications, lifestyle changes, and surgery. CD does not require a specific diet, but it does help to eat certain healthy foods that prevent worsening symptoms. These foods include low-fiber fruits, lean protein, refined grains, and fully-cooked vegetables. Effects of foods are thought to include a favorable effect on the intestinal microbiota composition that may minimize immunologic stimulation of the host immune response [1].

In a retrospective study, family physicians reviewed the medical records and completed a questionnaire on patients with Crohn's disease in their practice. Family physicians treat on average 137 patients with Crohn's disease in practice, some are in the active stage of the disease, most of them regularly take medications, and others need careful and regular monitoring and surgery procedures. Some do not need specific drugs [11].

In the case described we have highlighted an example of a complex clinical picture of young women beginning with the correct search for a diagnosis according to age and family scheme to drugs side effects and disease itself, from osteopenia to surgery, and inserted stoma. We wanted to emphasize the importance of cooperation between the family doctor and the patient as well as between the family doctor and specialists at the tertiary level.

## Conclusion

The chronic course of the disease and the continued presence of patients with the active disease requires a special approach to the education of physicians so that they could be effective and competent in the management of CD patients in family medicine. Collaboration with experts from various fields like gastroenterology, genetics, immunology, physiology,

psychology, and nutrition will treat the individual appropriately [11].

In our case, the disease began in childhood, and after the age of 18, our patient was no longer referred to pediatricians. Instead, her selected family doctor is dealing with further treatment. Our patient is being properly looked after and treated holistically since there are also specialists from various fields involved in the treatment. She is trying to live a quality life regardless of her illness. She adapted well to the disease and is currently a successful student with many activities. Her family has shown a lot of support, therefore adaptation to the disease was easier.

Taken together, in recognition of the value of active self-management of disease, patient associations, leisure organizations, and other relevant organizations based on general practice will further support interdisciplinary working in reliable management of Crohn's disease.

## Authors' Contribution

All authors contributed equally to writing the article: Conceptualization, methodology investigation, resources, writing - original draft, writing - review and editing, and visualization.

## Conflict of Interest

The authors declare that no conflict of interest exists.

## Funding Statement

None.

## Acknowledgment

The authors want to sincerely thank the patient for assisting us with the required information, for taking out the time to learn more about a chronic illness, and for how positivity is intended to be uplifting and helpful for those who dealing with Crohn's disease.

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