



A Case Report on Steroid Resistant Ulcerative Colitis

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ABSTRACT

Ulcerative colitis is a chronic inflammatory bowel disease that affects the large intestine. It leads to bloody diarrhoea and pain in the lower abdomen. In a 22-year-old man with steroid resistant ulcerative colitis, doctors were faced with an unusual case where he was producing blood. The patient had no medical history of bleeding (except for blood pressure medication two years ago) and had no predisposing diseases or conditions that would explain his non-bloody diarrhoea and rectal bleeding. In this case, doctors needed to find out if this patient had any other causes of bleeding other than ulcerative colitis such as a condition involving their platelets or a vitamin K deficiency, but none were found. Ulcerative colitis is a chronic inflammatory bowel disease that can lead to serious complications. The case study in this article highlights some of these complications which were treated successfully with steroid therapy. Patients may also experience weight loss, malabsorption issues or fatigue as well as complications such as liver problems. The case study also highlights the severity of the patient's condition before diagnosis and treatment, which is why need more research on all cases like this.

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INTRODUCTION

Ulcerative colitis is a condition in which the lining of the large intestine becomes inflamed and develops ulcers. The inflammation may extend deep into the lining of the colon. Steroid resistant ulcerative colitis is a type of ulcerative colitis that does not respond well to steroids treatments.

The article will discuss the following topics:

1. Etiology and pathophysiology of steroid resistant ulcerative colitis
2. Diagnosis and management of steroid resistant ulcerative colitis
3. Prognosis of steroid resistant ulcerative colitis [1].

This section is about steroid resistant ulcerative colitis, including symptoms, risks and treatments. Ulcerative colitis is a form of inflammatory bowel disease characterized by chronic inflammation of the lining of the large intestine, or colon. Ulcerative colitis is more common than Crohn's disease, another type of inflammatory bowel disease [Figure 1]. The symptoms may include sudden bouts of diarrhea, bloody stool, fever, cramps and general malaise. Complications can include dehydration due to diarrhea or blood loss, anemia caused by blood loss (leading to weakness), liver abnormalities (hypersplenism) due to chronic inflammation,

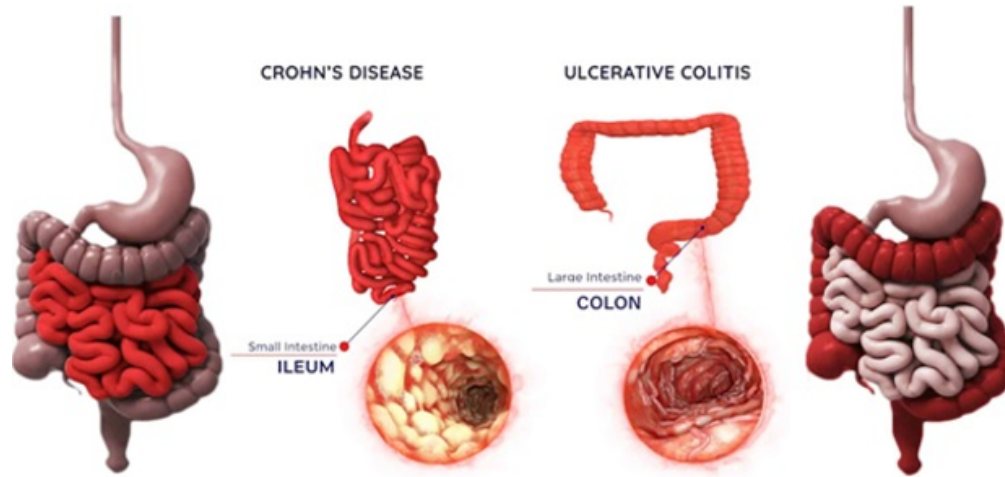


Figure 1: Differentiation of Crohn's Disease and Ulcerative Colitis

and rectal prolapse due to chronic inflammation and scarring. There is no single test that can establish the diagnosis with certainty; instead a range of tests needs to be taken into account. The diagnosis is typically made based on the person's symptoms and response to treatments. Steroids are the mainstay of ulcerative colitis treatment. They are used to decrease inflammation that is present in the colon or rectum [2].

Steroids are often used to treat the following symptoms: abdominal pain, diarrhea, fever, nausea and vomiting. Side effects of steroid can include weight gain, menstrual disorders, cataracts, easy bruising and increased risk of infection. They can also cause mental problems like mood swings or change in behavior. There are medications which can help reduce inflammation and to reduce the symptoms of ulcerative colitis. This includes mesalamine, Balsalazide, Azathioprine, immunoglobulins, vitamin D analogs. Corticosteroids are not typically used because they have significant side effects. Medical therapy will be prescribed depending on the severity of the condition. If there is little inflammation but many symptoms then mesalamine might be prescribed. If there is more severe inflammation then immunoglobulins might be prescribed with or without thiopurines. Steroids are not typically used because they have severe side effects including muscle wasting, osteoporosis and high blood pressure among others which can lead to heart disease and diabetes among other conditions [3].

Case Presentation

The case is of a 22 year old male with bloody diarrhoea and weight loss. He can be seen to have an enlarged liver and sometimes has abdominal pain. His investigations show that he has ulcerative colitis, steroid resistance and blood in stool. The patient

also has signs of steroid resistance. He presents with bloody diarrhea, the usual clinical signs for ulcerative colitis, and he will be investigated to get more information on his condition, including stool examination and analysis of the small intestine. The clinical history of the patient reveals that he had diarrhoea for 4 days. His stools were soft and brown in colour.

Ulcerative colitis is a chronic inflammatory condition of the colon, which leads to ulcers or open sores on the lining of the intestine, making it difficult to absorb nutrients from food. Steroids are often used as first-line treatment for ulcerative colitis because they work by reducing inflammation in the bowel. Patients who are resistant to steroids are usually prescribed other medications for managing IBD including immunosuppressants or biologics.

Investigations

This case study is about a man who was admitted to hospital due to bloody diarrhoea.

Investigations included a medical history, physical examination, blood tests and imaging studies of the abdomen.

The following investigations were carried out:

1. A physical examination revealed lower abdominal tenderness
2. Full blood count showed leukocytosis with neutrophilia
3. Urea and electrolytes were normal
4. Chest X-ray revealed cardiomegaly and pulmonary oedema
5. Abdominal imaging showed dilated loops of small intestine with internal haemorrhage, suggesting acute intestinal injury or ischaemia.

Investigations are necessary to find the specific cause of ulcerative colitis.

There are many investigations that can be done to find the cause of ulcerative colitis. These investigations vary depending on what is known about the patient's history, symptoms, and personal risk factors. The most common investigations are blood tests, stool analysis, colonoscopy, sigmoidoscopy or flexible sigmoidoscopy.

He had a pulse of 92/min and a blood strain of 142/65 mm Hg. Laboratory investigations found out haemoglobin 6.2 g/dl, C-reactive protein (CRP) 175 mg/l, white cell counted (WCC) $6.1 \times 10^9/l$ and albumin 21 g/l. All different bloods were unremarkable, which include his thiopurine methyltransferase (TPMT) degrees. Since the colitis was steroid resistant, this man was put on a drug called mercaptopurine after which his colitis resolved.

Case Report

A 22-year-old man with bloody diarrhoea and a history of ulcerative colitis (UC) for 7 years arising from an acute flare was admitted to hospital. His UC had been previously steroid sensitive but by 12 months into remission, he developed steroid resistant colitis and had been receiving mercaptopurine for 3 years. After an acute flare he developed bloody diarrhoea and abdominal pain and was found to have a stool C reactive protein concentration of 190 mg/dL (normal range: <10 mg/dL) and sigmoidoscopy showed patchy inflammation with superficial ulcers.

Diagnosis

It is important to know that ulcerative colitis is a condition that can be diagnosed easily.

The symptoms of ulcerative colitis are the following:

1. Very frequent bowel movements (ten or more times in just one day), particularly at night
2. Sudden onset, with blood and mucus passing through the stool
3. Extensive rectal bleeding
4. Persistent abdominal pain or discomfort
5. Frequent cramping or abdominal tenderness

If you do not have any of the symptoms mentioned above but still notice blood in your stools, please contact your doctor.

Treatment

This case study discusses the treatment of a 22 year old man with steroid resistant ulcerative colitis with apremilast, now marketed as Otezla, which

was approved for this use by the FDA in October 2013. Apremilast is a promising effective treatment for patients who have failed treatment with both conventional therapies. The efficacy of apremilast is comparable to that of anti-tumour necrosis factor agents, but it has a more favourable safety profile. Given the term "steroid-resistant ulcerative colitis", it is believed that the patient has an infection of the intestines with a bacterial toxin. The medical treatment for this type of ulcerative colitis consists of antibiotics taken orally or intravenously.

DISCUSSION

The man, with history of ulcerative colitis (UC) since the age of 6 years, presented to the emergency room with bloody diarrhea for 3 days that worsened overnight. There were no accompanying systemic symptoms. He had good weight, did not complain about fever or chills, and was afebrile. Laboratory investigations showed blood in stool (heme positive), normal white cell count (8 cells/mm³) and raised erythrocyte sedimentation rate (ESR) at 40mm/hour. A 22 year old man presented with bloody diarrhea, despite being on high dose steroids for over 6 weeks. He had been diagnosed with ulcerative colitis by his GP 3 years ago, and was subsequently prescribed high dose steroids for it. He recently noticed that his symptoms were worsening. He had crampy abdominal pain, constant watery diarrhea, weight loss and anemia. On questioning he mentioned that he had fever all the time but no idea what the cause might be. His stool examination was notable for red blood cells and white blood cells in the stool which suggested active inflammation within the gut wall [4-6].



Figure 2: Abdominal X-ray of a Patient Suffering with Ulcerative colitis

Abdominal X-ray

Hemoglobin 194 g/dl, leukocytes $11.6 \times 10^9/l$, platelets $336 \times 10^9/l$, alkaline phosphatase 418 IU/l, C-reactive protein 0.42 mg/dL (0-0.6), Partial

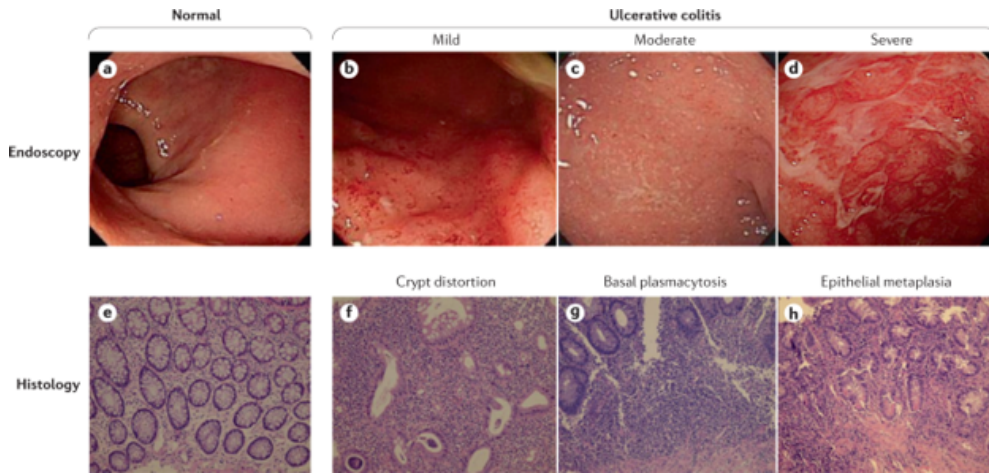


Figure 3: Endoscopy and Histology of Normal and Ulcerative colitis

thromboplastin time 34sec, prothrombin time 10sec, activated partial thromboplastin time 26sec [7]. It was determined that this patient has chronic inflammatory bowel disease - ulcerative colitis [Figure 2].

Medical History

The 22 year old male, Indian, British citizen with ulcerative colitis who presented with 2 weeks of diarrhoea at first. He had been seen by his GP who prescribed gastro-resistant antibiotics. He continued to have bloody diarrhoea with no response to antibiotics.

Diagnosis Process

Diagnosis is not possible without endoscopy but possible differential diagnoses are Crohn’s Disease, infective colitis, Diverticulitis [Figure 3].

Treatment Options

Start with intravenous co-amoxiclav for 10 days for severe cases. We do not know the long-term effect of steroids in ulcerative colitis and we usually only use them as a temporary solution. In some cases, the UC patient may have to take steroids for a year or more before being able to stop taking them. As the patient was given intravenous antibiotics, he had to be on treatment for 10 days. He was advised to take an oral antibiotic for another two weeks. The patient returned with the same symptoms of bloody diarrhoea. The doctor inquired about his abdominal pain and anorexia which were present before treatment started. The doctor prescribed another course of antibiotics and intravenous fluids [8, 9]. Ulcerative colitis is a type of inflammatory bowel disease. Steroid resistant ulcers are usually resistant with most medical treatment. The patient initially responded to the IBD therapy with remission but relapsed after two weeks with bloody diarrhoea. He was started on an oral corticosteroid with response

to therapy noted at 4 weeks with resolution of symptoms and histological findings.

CONCLUSION

Ulcerative colitis is a type of inflammatory bowel disease that causes inflammation to the lining of the large intestine and rectum. Patients with ulcerative colitis experience symptoms such as diarrhea, fatigue, weight loss and rectal bleeding. Here’s a recent case that shows how severe ulcerative colitis can be. In this article, a 22-year-old male presents to the hospital with bloody diarrhoea and a steroid resistant ulcerative colitis. He was admitted to the hospital for IV hydration and supportive care because of his low hemoglobin levels. The doctors were not sure if he had an intestinal obstruction or not so they did an abdominal CT scan. The CT scan results revealed that he had extensive inflammation in the large intestine and pancreas, which is what led to his chronic bloody diarrhoea. He was not fit for surgery at the time of admission, so he was given oral steroids with 5 days of IV hydration and discharged on oral steroids and azathioprine treatment. In summary, this case study provides evidence to support our hypothesis that apremilast is an effective therapeutic option for patients who have been refractory to conventional treatments for ulcerative colitis.

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Conflict of Interest

The author declares there was no conflict of interest for this study.

Contribution of Authors

Authors declare that, the Case Report by the names mentioned in the article and all the liabilities and claims related to the content of the article will be borne by the authors.

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