Microscopic Colitis

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Microscopic colitis (MC) has gained interest recently. This article will look at what MC is, the symptoms related to it and potential causes. It will also look into why this condition is often a missed diagnosis and mistaken for irritable bowel syndrome (IBS). Finally, it will explore the treatment and dietary management of MC. The purpose of this article is to highlight this common condition, consider whether it's been investigated for when treating a chronic diarrhoea patient and to be able to support this patient group nutritionally.

What is microscopic colitis?

MC is a chronic disease and a form of inflammatory bowel disease (IBD). It leads to inflammation in the lining of the colon, which can only be seen under a microscope. MC was originally thought to be a rare disease, however, more recently, this has been disproven. We know now that MC is as common as other forms of IBD – ulcerative colitis and Crohn's disease (UC & CD).

MC is an easily treated condition once diagnosed, and usually presents as chronic, watery diarrhoea without blood.[1, 2, 3]

Types of microscopic colitis

There are two recognised forms of MC. These are lymphocytic colitis (LC) and collagenous colitis (CC). Additionally, there is microscopic colitis incomplete (MCi).[1, 2]

Lymphocytic colitis: This type presents by there being more white blood cells (lymphocytes) than usual in the inner lining of your gut.[1, 2]

Collagenous colitis: This type presents by the inner lining of your gut having a thicker layer of a collagen than usual. There may also be more white blood cells present.[1, 2]

Microscopic colitis incomplete: This type is not currently recognised as MC. Here, the collagen layer and lymphocytes are abnormal, but not abnormal enough to class as LC or CC. However, there is still inflammation within the gut, which does respond to treatment.[2]

Symptoms:

- Chronic, watery, non-bloody diarrhoea
- Nocturnal diarrhoea
- Abdominal pain
- Faecal incontinence
- Urgency
- Weight loss
- Fatigue
- Joint pain/muscle pain.[1, 2, 3]

Causes

The cause of MC is still unknown. Although, there have been some links established that are thought to trigger the bodies immune system, leading it to attack healthy cells in the gut.

- Damage to the gut lining, either from viruses, bacteria, certain medication or bile acid malabsorption
- Abnormal immune function; those who have autoimmune conditions appear to be more likely to develop MC
- Genetic factors
- Other factors, such as smoking, age, gender and female hormones[1, 2, 3]
- Diet potentially plays a part, however specific foods have not yet been identified.[4]

Those more likely to develop microscopic colitis

- It is 2-5 times more common in women
- 50-70 years old is the peak onset
- Those with auto-immune conditions (e.g. coeliac disease, psoriasis, rheumatoid arthritis, thyroid disorders, etc.)
- Smokers
- Those who use the medications associated with MC.[1,2]

Diagnosis

The only way to diagnose MC is with a colonoscopy where biopsies are taken.[1]

Missed diagnosis in the UK

The usual tests for IBD are stool tests, blood tests and a colonoscopy.

The stool test would look at faecal calprotectin. In active other forms of IBD (CD & UC) a result more than 100 mcg/g would suggest inflammation. However, we know that in MC, the faecal calprotectin levels are not generally above 100 mcg/g.

The blood test would be checking inflammatory markers (e.g. CRP), which would be raised in other forms of IBD. Again, in MC, these are usually normal, or rarely raised. Furthermore, a colon suffering with MC would look normal to a colonoscopy, and it is not routine to have biopsies. MC can only be seen under the microscope, through biopsies.

Symptoms of MC are similar to IBS, especially the diarrhoea prominent type (IBS-D). It is thought that 10% of IBS-D patients actually have undiagnosed MC.[2]

Nutrition & microscopic colitis

In a flare

Diet has not currently been found to treat MC. There are currently no clinical guidelines on diet and MC. However, it can be used to help improve diarrhoea symptoms.

- Aiming for 5-6 smaller meals throughout the day has been shown to help with diarrhoea. This is because it's smaller portions of food for the body to try and digest. It also helps to make sure that we're getting the nutrition we need
- For those struggling with weight loss, opting for high calorie, high protein foods is beneficial
- Plenty of non-caffeinated fluids to replace the fluid lost with diarrhoea
- Chew food well, taking time with meals and snacks
- Limit intake of spicy foods, caffeine, fatty foods and alcohol
- Some people find it helpful to reduce their intake of high fibre foods, but this differs for each individual.[5]

Diet optimisation may also be needed for any overlapping digestive disorders. Such as coeliac disease or lactose intolerance.

In remission

Similar to during a flare, there are currently no clinical guidelines on diet and microscopic colitis remission. However, the International Organization for the Study of Inflammatory Bowel Diseases (IOIBD) (2020)[4] published the following recommendations to help patients control their IBD and maintain remission. They encourage including a variety of plant-based products to help to optimise and strengthen your gut health, including:

- Fruits
- Vegetables
- Omega-3 fatty acids (nuts, seeds & wholegrains).

Fibres from these food groups break down and ferment into short-chain fatty acids (SCFAs), which have been shown to have potentially anti-inflammatory properties.

Red and Processed Meat, and Animal fats

The IOIBD (2020) recommended to restrict the following foods:[4]

- Saturated & Trans fats (mostly found in animal fats or processed foods)
- Dairy fats
- Red & Processed Meats.

Current evidence shows that diets low in fibre, and high in these foods, tend to be more associated with increased IBD inflammation[4]. The current recommendation by the World Health Organization (WHO)[6] is currently no more than 70 g red meat per week to reduce your health risks.

Plant-based proteins

Taking into account the recommendations from IOIBD (2020),[4] increasing your plant-based proteins may be a way to decrease your red and processed meats, and animal fats.[4] These include beans, lentils, pulses, nuts, seeds, tofu, seitan, tempeh or meat alternatives.

Ultra-processed foods

Recent evidence is suggesting that certain additives found in ultra-processed foods could play a part in the development of IBD and also encourage inflammatory flares.[4] The following additives are advised to be limited or avoided if possible:

- Emulsifiers
- Artificial sweeteners
- Titanium Dioxide
- Carrageenans.[4]

King's College London is also currently researching this area in the Addapt trial, due to finish in 2024 (https://doi.org/10.1186/ISRCTN14054186).

Treatment

Current treatment centres around stopping possible MC triggers, such as smoking or medications associated with it.

The main medication used to treat MC is Budesonide (which is a corticosteroid). Other medication that may be consider are:

- Antidiarrhoea medications (loperamide)
- Immunosuppressants (azathioprine and mercaptopurine)
- Biologics (infliximab and adalimumab)
- Bile acid sequestrants if MC is related to bile acid malabsorption (BAM). These include colestyramine, colestipol or colesevelam.

Most people start on a higher dose of budesonide to get the inflammation under control, then reduce the budesonide level to a low dose to help maintain remission.[1,2,3]

It is rare that surgery is required in MC.[1,2,3]

In summary

MC is a common condition in the UK that is often misdiagnosed as IBS. When seeing IBS patients suffering with ongoing chronic diarrhoea, it is important that we investigate whether this condition has been explored.

In practice, those diagnosed with MC are often overwhelmed and worry that they might have caused MC and what they're eating might worsen their condition. Additionally, MS is not always a recognised condition. Therefore, it is important to check that your patient has had the correct treatment and flag this to the appropriate team if you're concerned.

Although diet cannot put MC into remission, it can still be used as an important tool for minimising symptoms. Furthermore, it is important to work with the patient to optimise their diet once they're in remission, as we know that improving our gut health can help maintain remission for longer periods.

References: **1.** Miehlke S, *et al.* (2020). European guidelines on microscopic colitis: United European Gastroenterology (UEG) and European Microscopic Colitis Group (EMCG) statements and recommendations. United European Gastroenterol J.; 9(1): 13-37. **2.** Münch A, *et al.* (2020). Undiagnosed microscopic colitis: a hidden cause of chronic diarrhoea and a frequently missed treatment opportunity. Frontline Gastroenterol.; 11(3): 228-234. **3.** Pisani LF, *et al.* (2017). Biomarkers and Microscopic Colitis: An Unmet Need in Clinical Practice. Front Med (Lausanne).; 4: 54. **4.** Levine A, *et al.* (2020). Dietary Guidance From the International Organization for the Study of Inflammatory Bowel Diseases. Clin Gastroenterol Hepatol.; 18(6): 1381-1392. **5.** McKenzie YA, *et al.* (IBS Dietetic Guideline Review Group on behalf of Gastroenterology Specialist Group of the British Dietetic Association) (2016). British Dietetic Association systematic review and evidence-based practice guidelines for the dietary management of irritable bowel syndrome in adults (2016 update). J Hum Nutr Diet.; 29(5): 549-75. **6.** World Cancer Research Fund/American Institute for Cancer Research (2018). Diet, Nutrition, Physical Activity and Cancer: a Global Perspective. Continuous Update Project Expert Report 2018. Accessible online: www.wcrf.org/wp-content/uploads/2021/02/Summary-of-Third-Expert-Report-2018.pdf (Oct 2023).