Using the Rome IV Criteria to Help Manage the Complex IBS Patient

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Functional gastrointestinal disorders (FGIDs) are a group of disorders of gut–brain interaction, thought to be related to motility disturbances, visceral hypersensitivity, altered mucosal and immune function, altered gut microbiota, and/or altered central nervous system processing (1). Irritable bowel syndrome (IBS) is the most common FGID diagnosed by gastroenterologists and general practitioners (2).

The Rome IV criteria are primarily symptom-based and are useful for selecting patients for clinical research studies, but their use carries limitations in clinical practice. Within one Rome IV diagnostic category, there is heterogeneity in disease presentation, severity and other clinical modifiers, all of which may alter management. Therefore, we discuss here a complex IBS patient using an algorithmic multidimensional clinical profile (MDCP) approach that can be applied to each FGID patient, to help clinicians assess clinical modifiers and individualize treatment. This approach can be particularly helpful in managing patients with more severe disease with multiple contributing factors that affect clinical presentation, illness behavior, and treatment response.

GENERAL STRATEGY USING ROME IV

The Rome IV process developed three educational platforms to enhance clinical care of patients with FGIDs. The Rome IV diagnostic algorithms provide information on diagnostic testing and decision-making, and use of the symptom-based criteria, using clinical algorithms for each FGID (3). The MDCP was also developed as a strategy to further sub-classify a patient with a categorical Rome diagnosis (1). The MDCP framework consists of five categories to further characterize a patient with a FGID (4) (**Table 1**). Not all of the five categories will apply to every FGID patient, but it can be helpful to assess a patient under this framework, because each of these categories could influence the physician's decision for the most effective treatment regimen. The Rome IV Interactive Clinical Decision Toolkit was created in partnership with LogicNets®, to provide an online and interactive platform that combines the diagnostic algorithms and MDCP treatment guidelines to direct patient care (5).

As the MDCP is a relatively new educational platform, evidence evaluating its use in the clinical management of IBS is not yet available. However, clinical experience suggests that the dimensionality aspect of the MDCP can affect treatment. For example, it is evident that subclassifying IBS into IBS with diarrhea (IBS-D) vs. IBS with constipation (IBS-C) would affect management. Furthermore, treatment of an IBS patient with comorbid anxiety or depression would likely affect the treatment plan, e.g., recommending behavioral therapy and/or an antidepressant, which improve both IBS symptoms and mood disorders (6). Therefore, we believe that using a methodology such as MDCP to further sub-classify a FGID would intuitively help management, but further studies are needed.

EXAMPLE CASE HISTORY

A 50-year-old woman with a history of fibromyalgia is referred to a gastroenterology clinic with chronic abdominal pain associated with both diarrhea and constipation for many years (4). Bowel symptoms have worsened in the past few years. Constipation is described as no bowel movement for several days, straining, and increasing abdominal pain and bloating before having hard stools. This is followed by 1 day of abdominal cramps with loose stools associated with fatigue. Diagnostic labs (complete blood count, C-reactive protein, and celiac serologies) and colonoscopy were normal. Her fibromyalgia symptoms started after a motor vehicle accident in her 30s. She takes a low-dose tricyclic antidepressant (TCA) and undergoes physical therapy. This has improved her sleep, which has been poor in the past, but pain and fatigue still impact her quality of life. She is unable to work due to debilitating symptoms. The patient has had anxiety and depression since her 20s and is being treated for this with psychotherapy and a selective serotonin reuptake inhibitor.

CASE DISCUSSION:

Applying the MDCP algorithm to this case (**Table 2**), we can summarize this patient as having IBS (7) (Category A) with mixed bowel habits (IBS-M) and coexistent fibromyalgia (Category B)

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Table 1. MDCP algorithm to sub-classify a patient with a FGID(4)

MDCP categories	How to obtain	Examples
Category A: Categorical Rome diagnosis	Defined by the Rome IV criteria	IBS Rome IV Diagnostic Criteria*(7) Recurrent abdominal pain on average at least 1 day per week in the last 3 months, associated with ≥2 of the following: Related to defecation Associated with a change in stool frequency Associated with a change in stool form (appearance) * Criteria fulfilled for the last 3 months with symptom onset at least 6 months prior to diagnosis
Category B: Clinical modifier	Ask the patient about clinical symptoms and physical signs. Review the patient's laboratory or physiological studies.	IBS Subtypes Rome IV Diagnostic Criteria(7) IBS-C: >25% of BMs with BSFS 1–2 and <25% with BSFS 6–7. OR patient reports that BMs are mostly constipation. IBS-D: >25% of BMs with BSFS 6–7 and <25% with BSFS 1–2. OR patient reports that abnormal BMs are mostly diarrhea. IBS-M: >25% of BMs with BSFS 1–2 and >25% with BSFS 6–7. OR patient reports that abnormal BMs are usually both constipation and diarrhea. IBS-U: IBS criteria were met but bowel habits cannot be categorized into 1 of the 3 groups above.
Category C: Impact on daily activities	Ask the patient: "Overall, how much do your symptoms currently interfere with life (work, school, social activities, self-care, concentration, and performance)?"	None, Mild, Moderate, or Severe
Category D: Psychosocial modifiers	Non-mental health professionals can make psychiatric diagnoses or determine social influences through patient report. Clinicians can also use DSM-5 criteria or validated surveys such as the HAD (Hospital Anxiety and Depression Scale) score.	Anxiety, major depressive disorder, posttraumatic stress disorder, somatic symptom disorder
Category E: Physiological features and biomarkers	Review lab and imaging studies that correlate with the physiology underlying the categorical Rome diagnosis and its subclass.	Lactose tolerance test in a patient with IBS-D indicative of lactose intolerance

DSM, diagnostic and statistical manual of mental disorders; FGID, functional gastrointestinal disorder; IBS, irritable bowel syndrome; IBS-C, irritable bowel syndrome with predominant constipation; IBS-D, irritable bowel syndrome with predominant diarrhea; IBS-M, irritable bowel syndrome with mixed bowel habits; IBS-U, irritable bowel syndrome unclassified; MDCP, multidimensional clinical profile.

with severe symptoms (Category C), and the presence of anxiety and depression (Category D). There are no physiologic features or biomarkers relevant to this case (Category E). In this patient, fibromyalgia, like IBS, is associated with fatigue and poor sleep (8). Anxiety and depression can coexist with both IBS and fibromyalgia, and their prevalence increases with greater disease severity (9).

This patient's clinical presentation is multifactorial and defined by chronic abdominal (IBS) and somatic (fibromyalgia) pain, altered bowel habits, and psychiatric comorbidities. Chronic pain in patients with IBS and fibromyalgia is due to enhanced viscerosomatic perception, which is thought to be due to central, and possibly peripheral, sensitization (8). Central sensitization refers to increased transmission of pain signals via afferent sensory nerves to the spinal cord and brain and decreased descending pain inhibitory modulation. Peripheral sensitization occurs with increased activation of peripheral sensory nerves and can contribute to central sensitization (10). Alterations in central and peripheral neural pathways can lead to altered intestinal motility and transit, which results in diarrhea and/or constipation. Psychological factors play a role in the development or symptom exacerbations of FGIDs by altering central processing of sensory input, often resulting in hypervigilance and enhanced perception (8). As the impact of her symptoms is severe, she will need treatment addressing all of these factors.

The patient is currently taking a TCA, which has symptomatic benefits for both IBS and fibromyalgia by modulating pain sensitivity both centrally and peripherally (11). For mild to moderate symptoms, antispasmodics can be initially tried, because they can provide short-term pain relief (12), particularly for postprandial symptoms. However, as this patient has severe pain, the dose of TCA can be increased as tolerated. For IBS, we recommend starting at a low dose and increasing the dose every 1–2 weeks to the lowest most effective dose in attempt to minimize adverse effects. As TCAs can worsen constipation, desipramine is preferred in IBS-M and IBS-C, since it has relatively less anticholinergic effects (13). However, the regimen to manage constipation may have to be increased. Because lower dosages of TCAs used for IBS are not effective for treating mood disorders, selective serotonin reuptake inhibitor and/or behavioral therapy should be continued. Another alternative, particularly in patients with constipation, is to switch the TCA and

Table 2. Utilizing the MDCP algorithm to sub-classify the example case and individualize treatment

MDCP algorithm	Example case	Explanation	Treatment options
Category A: Categorical Rome diagnosis	IBS	The patient has chronic abdominal pain associated with altered bowel habits, meeting Rome IV criteria for IBS(7).	*Bowel habits*: Symptomatic treatment with psyllium or laxatives for constipation. Add loperamide as needed for diarrhea. * Consider lower-dose lubiprostone or linaclotide to treat both constipation and pain, but they have only been studied in IBS-C and not IBS-M. *Abdominal pain*: TCA treats abdominal pain and fibromyalgia. Desipramine is preferred to minimize constipation. A SNRI can be used to treat fibromyalgia and abdominal pain. Consider switching the SSRI to SNRI if the patient has predominantly constipation.
Category B: Clinical modifier	IBS-M Fibromyalgia	The patient's bowel habits alternate between loose stools and hard stools, meeting Rome IV sub-classification criteria for IBS-M (7). The patient also has a diagnosis of fibromyalgia, which can coexist with IBS. Both IBS and fibromyalgia are associated with fatigue and poor sleep.	
Category C: Impact on daily activities	Severe	The patient has severe symptoms, because she is unable to work due to both her GI and non-GI symptoms.	
Category D: Psychosocial modifiers	Moderate anxiety and depression	A psychiatrist diagnosed the patient with anxiety and depression. Comorbid anxiety and depression have been associated with both IBS and fibromyalgia, and their prevalence increases with greater disease severity.	A SSRI or SNRI can be beneficial in treating anxiety and depression symptoms. Cognitive behavioral therapy or hypnotherapy should also be considered to help her develop effective coping strategies.
Category E: Physiological features and biomarkers	None known		

IBS, irritable bowel syndrome; IBS-M, irritable bowel syndrome with mixed bowel habits; GI, gastrointestinal; MDCP, multidimensional clinical profile; SNRI, serotonin norepinephrine reuptake inhibitor; SSRI, selective serotonin reuptake inhibitor.

selective serotonin reuptake inhibitor combination to a serotonin norepinephrine reuptake inhibitor such as duloxetine, which is approved for the treatment of fibromyalgia and depression (14), and may also be effective in reducing IBS-related pain (15). Although there is less evidence for serotonin norepinephrine reuptake inhibitors with more confined pharmacologic targets of action like duloxetine than TCAs in IBS, it should be noted that TCAs are serotonin norepinephrine reuptake inhibitors (16) in addition to having anticholinergic and anti-histamine effects. There are small, uncontrolled trials that showed improvement in GI symptoms with duloxetine in IBS patients with or without a comorbid psychiatric disorder (17,18). However, randomized controlled studies are warranted. To encourage compliance of neuromodulators, patients should be counseled that an effective dose may take up to 8 weeks to achieve full therapeutic effect.

There is a lack of data on efficacious treatments for the altered bowel habits in IBS-M. It is important to determine the patient's bowel habit pattern (19). Often, constipation for at least a few days precedes 1–2 days of diarrhea. If symptoms are mild, psyllium can be recommended first to reduce fluctuations between constipation and diarrhea. This patient has more severe symptoms and if she has more constipation than diarrhea, she can try laxatives or a lower dose of a prescription medication (e.g., lubiprostone and linaclotide, which can also reduce pain) in a step-up approach to reduce constipation and potentially subsequent diarrheal episodes. However, caution should be used as these medications have proven efficacy in IBS-C but have not been studied in IBS-M (20,21). Antidiarrheal (e.g., loperamide) can be used on days with diarrhea if needed, although this can result in worsening constipation. If the predominant bowel habit is diarrhea rather than constipation, the TCA dose can be increased first, because it can slow colonic transit and reduce pain.

Although this patient has received psychotherapy for anxiety and depression, other behavioral therapies, such as cognitive behavioral therapy or hypnotherapy, should be considered, because they can help patients develop effective coping strategies and improve management of IBS symptoms (6).

SUMMARY

The development of the Rome IV criteria and MDCP for defining FGIDs and individualizing the patient profile and treatment plan provides a valuable framework and approach for clinicians to establish an effective management strategy, especially for more severe disease.

CONFLICT OF INTEREST

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