Gastroenterology: The Focus on Mind and Body

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Gastroenterology: A blending of science and art

The field of Gastroenterology meets my needs of combining the technical aspects of medicine with a strong focus on the patient; it is a blending of science and art. In that regard, gastroenterology is different from other medical subspecialties. For example with cardiology, pulmonary disease and nephrology, clinicians can rely on cardiac catheterization lung physiology, or kidney function tests to understand how well a specific organ is functioning, and this closely relates to how ill the patient is. But understanding gastroenterological illnesses are more complex; there are no numbers or calculations of organ function to explain why the patient has abdominal pain or nausea. Gastroenterology looks at the person and his or her symptoms (e.g., pain, nausea, or diarrhea) in the context of daily functioning, life stress, quality of life, and coping style. It is all of these in combination that determines the challenge and excitement of working with gastrointestinal disorders.

The *science of gastroenterology* starts at the microscopic or sub-microscopic level, understanding how neurotransmitters and hormones in the bowel such as serotonin or cholecystokinin (CCK) affect gastrointestinal function. Furthermore, stress can produce these and other neurotransmitters in the brain and they can then work "downstream" to affect intestinal motility, inflammation of the bowel or the secretion of these organs. All GI symptoms are intimately connected to and regulated by the brain; that is why understanding psychosocial issues are so paramount.

So the gastroenterologist needs to understand the science in relation to possible disease and dysfunction of organ systems that produce symptoms and often consider how it may be modified by the individual's life context. Thus, nausea may occur from a disease in the liver, or from gallstones, a stomach ulcer, poorly functioning intestinal movements (motility), medication side effects, a recent infection, an early pregnancy, a recollection of early traumatic experience or even having an argument with one's spouse. Similarly, a patient with inflammatory bowel 2 disease (IBD) may be doing well and then suddenly experience pain and diarrhea; the disease itself may or may not have worsened, but other factors - such as a super-imposed infection, stress, or dietary change or any combination - may also be the cause.

Then these historical data need to be refined with a physical examination and diagnostic studies: when to do the blood tests, or an endoscopy, whether to order the CT scan or MRI or even do no testing at all. Once all this information is obtained the gastroenterologist must put it all together, and come up with a reasonable diagnostic approach and plan of care. So the science involves integrating the evident data on gastrointestinal pathology and physiology within the context of the person. Then there is the art: the interaction with the patient.

The *art of gastroenterology* is not what you do but how you do it. It involves understanding and participating in the patient's inner world as related to his or her illness: to use good interview skills to validate the previous medical information and obtain new meaningful data directly from the patient, and to put the more personal psychosocial influences into proper context. It also involves understanding the patient's "illness schema" or perception of what is wrong, and what his or her concerns or expectations are from the doctor. Then the information is integrated into an effective diagnostic and treatment plan. Finally, the physician must convey this information in a manner that is acceptable to the patient, and work toward reaching mutual agreement as to how to move forward. In effect, all of this involves establishing a trusting relationship with good communication and shared decision making.

When the diagnostic issues are clear: e.g., a gallbladder attack, hemorrhaging from a duodenal ulcer or a bowel obstruction, the expectation for diagnosis and treatment is almost always shared; the doctor must take control and the patient agrees to this. But, the way in which the diagnostic and treatment plan is conveyed remains important, and good communication improves patient understanding and reduces anxiety. Importantly, when the gastrointestinal illnesses are chronic, different expectations for diagnosis and treatment between patient and physician may arise and more work is needed to be sure that both are "on the same page".

These skills are not learned through technology or textbooks. Rather it requires that gastroenterologists be mentored from knowledgeable teachers, learn from their own experience with patients and also possess a genuine desire to help the patient. Typically, doctors like patients who get better and thank them for the effort. But with the most prevalent chronic GI disorders (e.g., chronic liver disease, inflammatory bowel disease, functional GI and motility disorders chronic pancreatitis, intestinal malabsorption), this is not always the case. So physicians need to value the *process* of their care with patients. This means building the relationship to help patients help themselves, expecting only occasionally to make a rare diagnosis or to cure. What patients with chronic illness truly want is a sense of hope, and to have a doctor who cares and won't abandon them. The studies show that an effective physician patient relationship not only improves patient satisfaction, adherence to treatment and avoids litigation, but it also leads to better clinical results.

Communication Strategies

There are simple strategies to enhance communication and the physician patient relationship. I tell students, residents and GI fellows (i.e., internists taking additional training in the subspecialty of gastroenterology) that to obtain meaningful information one must "sit where the patient is": to see their personal understanding and expectations from the illness (their "illness schema"). The following questions can help:

1) What do you think is going on?
2) What are your concerns or worries?
3) What brings you here at this time?
4) What are your expectations from me? Asking these questions lets the patient know of the physician's interests in their personal views.

The responses help the physician understand any misconceptions that need to be addressed. For example, patients may believe that the abdominal pain is due to cancer, or that chest pain is due to heart disease or a hiatal hernia. However, chronic abdominal pain is uncommonly related to cancer, heart disease can be easily excluded, and a hiatal hernia rarely produces symptoms. So when these beliefs are elicited, they can be appropriately addressed thus reducing unneeded worry or concern. Paradoxically, some patients with chronic or unexplained symptoms may be disappointed when a specific structural diagnosis is not found ("Is it in my head then?", "Is this doctor competent"?), and this may lead to requests for more studies at a time when the physician sees a chronic illness requiring treatment and without further diagnostic studies. So the patient may view the physician's lack of interest to diagnostic studies as a failing, while the physician may perceive the patient's insistence to do more studies as defiant of his or her plan.

This dilemma is avoided if the physician is able from the outset to elicit the patient's perspective and respond appropriately. For instance, the greatest concern to most patients is cancer. If the doctor quickly reassures by saying "nothing is wrong" the patient may perceive this as a false reassurance without proper attention to the issue and lose confidence. However, if the doctor says: "We can never fully exclude cancer but I feel reassured from what you've told me and the study results that you have (name diagnosis) and we should focus on management. However, I'll stay vigilant to any changes in your clinical condition that could require further studies, for example if you have bleeding or weight loss…..". This approach takes the patient's concerns seriously and emphasizes continuation of care while presenting boundaries to ordering unnecessary studies.

Understanding the Life Context in Developing a Diagnosis and Treatment Plan

Sometimes the process of developing a diagnosis and treatment plan is straightforward. If, for instance, a patient reports blood in the stool or has heartburn or becomes jaundiced, it does not take more than ten or fifteen minutes to get the history and decide on a plan: endoscopy for bleeding or heartburn, or blood studies and diagnostic imaging to evaluate the liver. The rest follows without difficulty One of the more challenging aspects of GI practice is seeing patients with chronic

unexplained conditions that requires a more comprehensive biopsychosocial perspective 2. Diagnosis first involves reviewing extensive records, often in advance of the patient's visit, to see what studies have and have not been done. Once the background information is obtained rather than asking 4 the same questions or redoing the tests, they physician tries to go where others have not: to consider diagnoses that may have been overlooked, and importantly to find out about the illness within the life context of the patient. For example, did the symptoms begin at Christmas dinner on the first anniversary of the parent's death? Or has there been a history of emotional trauma or physical or sexual abuse?3. At tertiary care medical centers half of the women seen in the gastroenterology clinics report a history of abuse, and those individuals have more severe symptoms and poorer quality of life 4. We are now earning that this observation may be due to malfunctions in certain areas of the brain that can amplify the pain 5, 6. It is this biopsychosocial understanding of illness and disease that puts the patient's symptoms into a clearer perspective and opens the door to more effective treatments.

Some patients have become conditioned to respond to stress with gastrointestinal symptoms, yet are not aware of this association. This may be confusing or in the least challenging for gastroenterologists where an association with stress seems evident. For example, if Johnnie goes to school for the first time at age five, he might experience a psycho-physiological response to the fear of leaving home: abdominal cramps and diarrhea. If the parent singles out these symptoms as a reason to keep the child home, and in fact "rewards" the child by providing toys and allowing him to watch TV, the child's relief in avoiding the feared situation could reinforce the recurrence of such symptoms in future distressing circumstances, even into adult life. If, on the other hand, the parent says, "Johnny, you have a stomachache. Maybe you are feeling nervous about going to school; let's talk about it," then the child learns to understand his anxiety about going to and verbalize it rather than expressing it through the conditioned symptoms. Our research has shown that patients with IBS who frequently see physicians grow up in family environments where they did not learn to communicate stress verbally, though they did receive attention and were brought to physicians when they voiced physical complaints. Conversely, patients who make the link between stress and GI symptoms seem less distressed with their symptoms and don't go to doctors as often 7.
I once had a patient with many years of abdominal pain and many evaluations say to me on the first visit: "I am not leaving this table until you agree to operate." These are challenging situations for patient and doctor. Indeed, the patient who says that they know their pain is "real" and there is no stress in their lives requires a physician with experience, patience and skill to provide a different level of understanding and support. These patients may have also been mishandled by the health care system, and they are fearful of being rejected yet choose to see many doctors trying to find an answer.

It is so much easier in our litigious and cost-focused health care system to perform costly tests and prescribe symptomatic treatments without making the effort to understand. Patients with complex

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long-standing conditions don't benefit from this approach. In the 1970's, researchers studied a concept called "furor medicus" 8. They evaluated patients who came to the emergency room and divided them into two groups: those with acute problems and those with chronic conditions. Researchers found that patients with chronic conditions had more procedures done, more medications prescribed, and more exploratory laparotomies performed even when the doctors' believed they probably weren't indicated. Why should they go against their better judgment? Furor Medicus depends on two factors: the level of uncertainty within the doctor and the level of insistence by the patient to do something. Residents in training are likely to perform 5 extra procedures and unneeded treatments because they don't have the experience to deal with the uncertainty of medicine; on the other hand, even experienced physicians may go against their better judgment and order studies and treatments when the patient insists that something be done now in order to achieve a quick solution. The most respected gastroenterologists are those who can step back and look at the big picture rather than simply react. In situations like this, it is best to: "Don't just do something, stand there".

In these types of situations, the physician needs to acknowledge the patient's frustration, make it clear that the pain is real and then focus on developing a supportive relationship that helps the patient find ways to accept the illness and learn to self-manage. These are patients who have been to many doctors and what they need is someone to work with them regardless of the diagnosis or outcome.

It may take a little longer on the first visit to obtain and integrate the needed information and establish an effective relationship. However the results pay off for the patient, far more than paying for another endoscopy that turns out negative. This is the type of practice I choose to do, and the rewards relate to working with someone who has suffered for many years without understanding why, and helping them to find the answers and improve their quality of life.

But aren't we talking about Gastroenterology? As it turns out I have not reflected on the technical aspects of the discipline. Technical skill and adequate knowledge of the field is a requirement for training. This area of gastroenterology is well standardized and reinforced in practice because and it is challenging and exciting: stopping a bleeding artery in the stomach, taking out a gallstone during sphincterotomy or doing a liver transplant. Rather I believe a deeper satisfaction occurs through training in the more cognitive aspects of gastroenterology, clinical reasoning and decision making, communication skills and building of the physicianpatient relationship. This is where the work can be gratifying for physician and patient alike.

Helping Patients with Functional GI Disorders to Help Themselves

I've been fortunate to have trained both in gastroenterology and psychosomatic or biopsychosocial medicine, and so I focus on the interaction of the brain and gut 2; my practice often involves

working with the most complex functional GI disorders. These disorders must be understood from a biopsychosocial approach in order to integrate the role of biological, psychological and social factors in understanding the illness for clinical care and research.

About 15 years ago I was fortunate to recruit William Whitehead PhD from Johns Hopkins to the University of North Carolina and together we founded the UNC Center for Functional GI and Motility Disorders at the University of North Carolina (www.med.unc.edu/ibs). Our collaboration has led to an internationally recognized program in clinical care, research and teaching of the functional GI and motility disorders.

Patients with functional GI and motility disorders who have been to many high quality practices are referred to us because they continue to have disabling symptoms and poor quality of life. On occasion we come up with new diagnoses and treatments; however, most often we attend to the educational and management aspects of conditions that have already been diagnosed. Yet 6 patients may say: "no one has told me what I have", which I interpret as a failure in communication. They say "nothing has worked for me" and here it is important to understand what was prescribed, for how long, whether it was taken and how much the patient was given the opportunity to become involved in the care.
Because functional GI disorders do not have specific findings with laboratory studies, x-ray or endoscopy, the patients often feel that something else is being missed, or that without any of these findings their symptoms are psychosomatic or "in my head". They feel "out of control" and unable to manage their symptoms. A vicious cycle then ensues: without feeling unable to understand or control a condition that has great impact on their life, the patient becomes anxious and distressed, and that in turn leads to more symptoms and so it continues. At UNC we employ gastroenterologists, physician assistants, psychologists and motility experts to work together to get to know the illness, the patient and their psychosocial and coping resources to find the ways to break the vicious cycle. In addition to using state of the art diagnostic and treatment methods when needed, we also help patients regain their sense of control over their illness and their life.
We make the effort provide a clear physiological explanation as to why they are having the symptoms, and offer rationale for treatment based on this understanding. A major effort is to focus on helping patients become "re-empowered" so they can feel in control enough to manage their symptoms. Since these are chronic GI disorders, we explain that while "cure" may not occur, they can still regain their daily function and improve their quality of life. It's not unusual for a patient with years of disability to come back feeling much better saying: "The symptoms are still there but they don't bother me as much".

Another important contribution, which by its presence has helped to "legitimize" the field are the work of the Rome Foundation. I was fortunate to help build organization of over 100 world experts in functional GI disorders who are committed to helping the lives of patients with these disorders.

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The group has published clinical and research guidelines for physicians, other health care workers, pharmaceutical and regulatory agencies. The primary products are the symptom based criteria published in journals and most recently in the Rome III book (www.romecriteria.org) which includes comprehensive information on the pathophysiology of over 2 dozen functional GI disorders, and makes recommendations for their diagnostic studies and treatments. Between the work of the Rome Foundation and the recent introduction of new pharmaceutical agents for IBS and other functional GI disorders, public awareness has grown.

There has also been increased research in this area as a result of the recognition of the Biopsychosocial Model first coined by George Engel in 19779. I believe that in 10-20 years this will be one of the most important clinical and research areas in gastroenterology.

The Future of Gastroenterology

In the 1960's, gastroenterologists moved away from being internists with special interests in the gastrointestinal tract, to becoming "proceduralists", performing endoscopies, interventional endoscopies and ultrasound. Now, gastroenterologists can reduce the need for surgery by endoscopically removing polyps before they turn into cancer, or draining abscesses that otherwise would require an operation or taking out gallstones. Over the next five years, we are likely to see more emphasis on technical procedures such as surgical endoscopies and newer 7 diagnostic imaging methods. Interventional endoscopy will likely move away from "mainstream" gastroenterology. The technical demands that will require additional training to maintain competence. Similarly, other areas of gastroenterology will also separate out because of their own unique features. Hepatology has already done that; possibly inflammatory bowel disease specialists and GI oncologists will need to affiliate at medical centers because of the need to collaborate with surgeons and radiologists.

What will be left? Routine gastroenterological care and endoscopy will always be needed by patients in the community. I suspect that the gastroenterologist in practice will function much like the internist serving as a "gatekeeper" managing the routine problems like GERD milder forms of liver and other gastrointestinal conditions on an ongoing basis and performing routine endoscopies as needed. The practicing gastroenterologist will refer the patients to specialists when further expertise is needed in a more specialized area of gastroenterology. This is already happening.

I am hopeful that there may also be a group of gastroenterologists primarily involved with functional GI and motility disorders that will have learned the communication and cognitive skills to properly diagnose and care for these patients. This may require a shift in our health care economics to a more nationalized system where proper compensation can be applied to the cognitive skills. It is also likely that nurse practitioners or physician assistants as well as nutritionists and psychologists will be part of this health care team. In the end, the hope is that all patients with GI disorders will be better served.

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