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CHRONIC Abdominal Pain

ABDOMINAL PAIN is among the main reasons for physicians' visits, with more than 12 million consultations occurring each year in the United States.¹ The patients with visceral pain present unique challenges because the pain is poorly localized and is associated with strong autonomic reactions and changes in visceral function as well.

Pain management, in turn, may further alter visceral function with opioid effects in the gastrointestinal tract. These unintended treatment effects on visceral function can exacerbate the pain or lead to additional discomfort, thus showing that functional and effective pain management need to be based on an understanding of the anatomic and physiologic basis of visceral function and pain. For example, in irritable bowel syndrome (IBS), the abdominal pain tends to get better after a bowel movement. Opioids will cause constipation, making the abdominal pain worse and longer lasting due to the slow peristalsis caused by the stimulation

of the mu receptors (mu2 to be precise).²

The complex innervation that provides sensation and motility to the gut and to the many organs encased in the abdominal wall and peritoneum makes it very difficult for the clinician to determine what pathology is the culprit of the abdominal discomfort and disease. For obvious reasons, this is more complicated and dangerous if undiagnosed. In the acute setting, something called "acute abdomen" becomes a real challenge for the ER doctor who, in many instances, will be the first doctor who would have to untangle this very puzzling clinical presentation. To make matters worse, depending on the age group and sex, the related co-morbidities would vary, meaning that those in a pediatric setting will be different from those in an adult setting. This does not mean that either one is exclusive for the different age groups – it means that either one can be present in all of them, but the odds of being present increase depending on age and sex (except

for the female organs, e.g., endometriosis).

To share an example: Acute abdominal pain is a common presenting complaint in older patients. Presentation may differ from that of the younger patient and is often complicated with coexisting diseases, delays in presentation, and physical and social barriers. The physical examination can be misleadingly benign, even with catastrophic conditions such as abdominal aortic aneurysm rupture and mesenteric ischemia (lack of appropriate blood perfusion).

Changes that occur in the biliary system because of aging make older patients vulnerable to acute cholecystitis, the most common indication for surgery in this population.³ In older patients with appendicitis, the initial diagnosis is correct only half of the time, and there are increased rates of perforation and mortality when compared with younger patients. Medication use, gallstones, and alcohol misuse increase the risk of pancreatitis, and advanced age is an indicator



of poor prognosis for this disease. Diverticulitis is a common cause of abdominal pain in the older patient; in appropriately selected patients, it may be treated on an outpatient basis with oral antibiotics. Small and large bowel obstruction, usually caused by adhesive disease or malignancy, are more common in the aged and often require surgery. Morbidity and mortality among older patients presenting with acute abdominal pain are high, and these patients often require hospitalization with prompt surgical consultation.⁴

Inflammation of the gastrointestinal (GI) tract may occur as a result of infection, physical damage (radiation exposure and ischemia), or an idiopathic, chronic relapsing process commonly referred to as inflammatory bowel disease (IBD), including ulcerative colitis (UC) and Crohn's Disease. These are among the chronic abdominal pain pathologies. More commonly manifested, we can also add irritable bowel syndrome (IBS), which is a heterogeneous group of conditions related to specific biologic and cellular abnormalities that are not fully understood – a chronic functional colonic motility disorder manifested by recurrent abdominal pain and bloating. Psychological factors do not cause IBS, but many people with IBS also have anxiety or depressed mood, a history of adverse life events, or psychological stressors. Physicians must understand the fears and expectations of patients and how they think about their symptoms and should also respond empathetically to psychosocial cues. Anxiety

related to the unpredictability of symptoms may have a greater effect on quality of life than the symptoms themselves. Patients in generally good health who have ongoing or recurrent gastrointestinal symptoms and abnormal stool patterns most likely have IBS or another gastrointestinal disorder. Patients who meet symptom-based criteria and have no alarm features may be confidently diagnosed with few, if any, additional tests (e.g., fecal calprotectin is accurate and cost effective). Patients may not completely understand the diagnostic process; asking about expectations and carefully explaining the goals and limitations of testing leads to more effective care. There is no definitive treatment for IBS, and recommended treatments focus on symptom relief and improved quality of life. Trusting patient-physician interactions are essential to help patients understand and accept an IBS diagnosis and to actively engage in effective self-management.⁵

Obviously, to try to cover everything there is regarding chronic abdominal pain in this column would be extremely unrealistic. My intention is to discuss the cornerstone issues and the very particular profile of this pain. I would like to make sure we understand the difference between somatic pain and visceral pain.

Noiceptive pain can originate from somatic and/or visceral sources, or both. Somatic pain originates from skin, muscle, and fascia. It is mediated by the somatic nervous system; as innervation is highly specific, localization of the pain is precise. Somatic pain

is often described as sharp, aching, or throbbing. Visceral pain originates from internal structures. It is mediated by the autonomic nervous system, and there is a lack of specificity of innervation with considerable neuronal crossover. Visceral pain is typically difficult for the patient to localize or describe and may encompass an area that is much larger than might be expected for a single organ. Visceral pain is often characterized as diffuse and intermittent. Examples can include the abdominal pain experienced with bowel obstruction or bloating.

So, in conclusion, due to its very particular innervation, abdominal pain can be a challenge for the physician to localize and diagnose. But with a very thorough medical history, physical exam, labs, and imaging, we could determine the cause so we can treat it, our goal being to improve the quality of life, minimize the psycho-social impact, and help the patients to manage their pain. ■

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