Some individuals ‘hardwired’ to experience chronic GI pain

Pain is a normal human experience, but some people are hardwired physically, emotionally or both to progress to chronic pain states, according to the presenters at Sunday’s ROME Foundation AGA Institute Lecture on Understanding and Treating the Brain’s Contribution to Pain.

Irene Tracey, PhD, the Nuffield Professor of Anaesthetic Science and director of the Oxford Center for Functional Magnetic Resonance Imaging of the Brain at Oxford University, U.K., explained how the brain affects chronic pain.

The central nervous system addresses pain with a “good cop-bad cop” approach, she explained. The bad cop is pro-nociceptive, which leads to widespread, whole-body pain in humans. The good cop is anti-nociceptive, which reduces sensitivity to painful stimuli.

Anxiety and depression are amplifiers and sensitizers of pain, and they both exacerbate the pain experience, Dr. Tracey added. Her research and that of others has shown that individuals can control their own perception of pain, especially when distracted from focusing on the pain.

And because both emotional and physical factors are involved, the treatment for chronic GI pain may include pain medication and behavioral interventions.

There is a clinical rationale to using antidepressants, said Dr. Drossman, professor emeritus of medicine and psychiatry, and founder and director of the Center for Functional Gastrointestinal and Motility Disorders at the University of North Carolina School of Medicine in Chapel Hill.

“There is a clinical rationale to using antidepressants,” he said. “Gastroenterologists should become familiar with the use of antidepressants if they are dealing with chronic pain conditions. One of the messages you can tell your patients if they say they are not crazy, not depressed, say that the brain and the gut are hardwired. Drugs used for the brain will affect the gut as well.”

Tricyclic antidepressants may be more effective than selective serotonin reuptake inhibitors (SSRIs) for chronic pain because they work on serotonin and noradrenergic systems, whereas SSRIs are primarily serotonic in action, Dr. Drossman explained.

Other medications used to treat chronic abdominal pain include the antidepressant mirtazapine, the hypotensive agent clonidine and the anxiolytic agent buspirone. The antipsychotic agent quetiapine may be used for anxiety, while the Alzheimer medication memantine may affect the development of chronic pain, he added.

Today during the final SSAT Controversies in GI Surgery session at DDW* 2014, a group of experts will take up two more contentious topics. The first debate concerns medical versus surgical management of small-duct chronic pancreatitis, while the second will weigh mesh versus no mesh reinforcement in the repair of paraesophageal hernias.

“Chronic pancreatitis is increasing in frequency in the U.S. and is a rising cause of hospital admissions — up about 10 percent over the past decade,” said debate organizer David B. Adams, MD, professor and chief of gastrointestinal surgery and co-director of the Digestive Disease Center at the Medical University of South Carolina in Charleston, who will provide an introduction to the first debate.

“Patients with chronic pancreatitis are stigmatized and marginalized by health-care providers because they are challenging patients to take care of, chiefly because we don’t understand the pathogenesis of the disease nor do we have uniformly effective therapies,” Dr. Adams added.

Chronic pancreatitis frequently results in chronic, intractable pain and subsequent trips to the emergency room.

The discovery of the importance of genetic components to chronic pancreatitis has helped break through some of the obstacles of caring for these patients. There have also been advances in the surgical management of chronic pancreatitis.

“But medical and surgical management continues to be controversial because there is no agreement to what minimal change in the disease is, and we don’t have a lot of objective evidence that correlates what is wrong with the anatomy and the physiology of the pancreas with how to fix it,” Dr. Adams explained.

“However, total pancreatectomy with islet-cell transplantation has shown promise and is a hot topic for now,” he said.

During the debate, Syed Ahmad, MD, professor of surgery at the University of Cincinnati College of Medicine and director of the Comprehensive Gastrointestinal Cancer Center at the University of Cincinnati Cancer Institute, OH, will discuss total pancreatectomy and the imaging methods used to diagnose the disease. And William H. Nealon, MD, vice chairman of surgery at Vanderbilt University in Nashville, TN, will describe more traditional resection and surgical drainage procedures.

The next debate on paraesophageal hernia repair will address an issue that is particularly important to foregut surgeons and gastrointestinal surgeons in general, said James P. Dolan, MD, assistant professor of surgery at Oregon Health and Science University in Portland.

“The main problem we have with repairing paraesophageal hernias — that is, herniation of much of the stomach into the chest or mediastinum — is that the recurrence rate is extremely high,” said Dr. Dolan, who helped organize the debate. “We want to do something possible to reduce the recurrence rate and one of the areas we believe might make an impact on those rates is the use of mesh during the repair of the hiatus.”

However, there has been only one randomized clinical trial that examined recurrence rates when mesh was used to reinforce paraesophageal hernia repairs. That study was published in 2006 by Brand Oelschlager, MD, chief of gastrointestinal surgery and director of the Center for Esophageal and Gastric Surgery at the University of Washington in Seattle.

Dr. Oelschlager studied two groups of patients with paraesophageal hernia. In one group, he and his colleagues did a primary repair of the hernia using sutures and pledges. In the second group, they also repaired the hernia with sutures and pledges but reinforced the repair with a biological mesh.

“Their hypothesis was that the biological mesh would decrease the recurrence rate,” Dr. Dolan said.

In short-term follow-up at six months, the researchers found that the mesh repair seemed to have an effect. The recurrence rate among those who received the mesh repair was about 9 percent, while the recurrence rate was 24 percent in those who had the primary repair only. However, in a longer-term follow-up study published in 2011, the investigators found that the recurrence rate in both groups was greater than 50 percent.

“So while the short-term benefit seemed to be good, somewhere between six months and the 58-month median follow up, patients in both groups seemed to recur at the same frequency,” Dr. Dolan said.

The debate will feature three speakers: Marco Patti, MD, professor of surgery and director of the Center for Esophageal Diseases at the University of Chicago, IL; Constantine Frantzides, MD, PhD, professor of surgery at the University of Illinois at Chicago and director of the Chicago Institute of Minimally Invasive Surgery; and C. Daniel Smith, MD, chair of surgery at the Mayo Clinic in Jacksonville, FL.

Please refer to the schedule-at-a-glance in today’s issue for the time and location of these and other DDW events.