Division of Gastroenterology, Hepatology, and Nutrition

In This Issue

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Total Care-IBD:

UPMC's IBD Medical Home

By Miguel D. Regueiro, MD and Eva Szigethy, MD, PhD

The medical home model holds promise as a way to improve health care in America by transforming how primary care is organized and delivered. Through this comprehensive and patient-centered approach, coordinated and accessible medical and behavioral care is available for patients, focusing attention on quality and patient safety, while decreasing cost and unnecessary health care utilization.

Chronic diseases like Crohn's disease and ulcerative colitis, collectively known as inflammatory bowel diseases (IBD), can lead to unexpected hospital stays, high medical costs, and a lower quality of life. Chronic pain and emotional stress have been identified as under-recognized and often untreated symptoms of many IBD patients. To address the specific needs of this IBD population, UPMC has instituted Total Care-IBD, the first subspecialty medical home of its kind in the United States.

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Disclosures: Doctors Ganesh, Greer, Harrison, Holder-Murray, Kabbani, and Zator have reported no relationships with entities producing health care goods and services. Ms. Sigal and Ms. Wein-Levy have reported no relationships with entities producing health care goods and services.

Dr. Regueiro is a consultant for AbbVie Pharmaceuticals, UCB, Takeda Shire, and Janssen. Dr. Szigethy has received research support from the Crohns and Colitis Foundation of America, book royalties from APPI, and is a past consultant for Merck, AbbVie Pharmaceuticals, and a current consultant for iHope Network. Dr. Whitcomb has received research support from NIH, Department of Defense, Janssen, and AbbVie Pharmaceuticals, is a consultant for Ariel Precision Medicine, and is a stockholder in Ariel Precision Medicine.

Instructions: To take the CME evaluation and receive credit, please visit **UPMCPhysicianResources.com/GI** and click on *UPMC Digest Winter 2016*.

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UPMC LIFE CHANGING MEDICINE

IBD and the GREAT Study

By David C. Whitcomb, MD, PhD

The *Genomic Resource for Enhancing Available Therapies* (GREAT) Study is a new precision medicine initiative within the Division of Gastroenterology, Hepatology, and Nutrition at the University of Pittsburgh. The study is designed to allow patients to participate in medical research by sharing their medical information in the health care record and their biological waste for research (including DNA for genotyping), and giving permission to contact them again in the future. The study has minimal risk, and the process of patient consent and participation has been automated to maximize efficiency (e.g., minimize the physician time and disruption of clinic flow) and, therefore, enrollment. The pilot phase focused on Inflammatory Bowel Disease patients, with pancreatitis and liver patients following. Over 700 people have joined the study to date in this early phase.

The GREAT Study also supports academic-industry partnerships. By tracking the patients' management plans, it is possible to collect endoscopic or surgical samples linked to clinical care.

The power of the GREAT Study is its ability to identify subsets of patients within a large, extremely well-defined population with precise disease courses, trajectories, and responses to treatments. Hypothesis testing can begin rapidly *in silico,* with functional validation following *in vitro,* and then clinical trials *in vivo.*

The GREAT Study also supports academic-industry partnerships. By tracking the patients' management plans, it is possible to collect endoscopic or surgical samples linked to clinical care. For example, one study utilizes fresh mucosal biopsies for a variety of tests on mucosal barrier function and immunological responses to stimuli under controlled conditions. Responses to the testing of control samples are predictable, but responses to patient samples are highly variable. Knowing the patient's age, sex, race, disease duration, activity levels, reasons for endoscopy/surgery, and past and current treatment responses are critical to understanding the context of the biological responses.

Everyone agrees that personalized, precision medicine is critical for advances in complex diseases, but how this is to occur is unclear. Coordinating the GREAT Study with the outstanding physician-scientists from the IBD team at the University of Pittsburgh could provide many major advances to improve the care of these suffering patients.

Dr. Whitcomb is the Giant Eagle Foundation Professor of Cancer Genetics, and is a Professor of Medicine, Cell Biology & Physiology, and Human Genetics. He serves as chief for the Division of Gastroenterology, Hepatology, and Nutrition.

A Surgeon's Case: Robotic Colectomy and Proctectomy in IBD

By Jennifer M. Holder-Murray, MD, FACS

CASE

A 22-year-old female presented with a history of postprandial abdominal pain and nausea and a five-year clinical history of Crohn's disease (CD). Current medical management included the anti-tumor necrosis factor agent, adalimumab. Colonoscopy revealed a stenotic terminal ileum that could not be traversed and mildly active colitis of the remaining colon (Figure 1). Biopsies demonstrated chronic ileitis and mildly active colitis. Magnetic resonance enterography revealed a chronic appearing terminal ileal stricture without other evidence of active CD (Figure 2). Robotic ileocecectomy was performed utilizing minimally invasive techniques with a four-centimeter incision for extraction of the CD segment.

DISCUSSION

Minimally invasive surgical techniques in inflammatory bowel disease (IBD) have advanced over recent years and are being used to manage complex problems in the IBD patient population. Patients with medically refractory ulcerative colitis (UC) require total proctocolectomy with possible ileal J-pouch reconstruction. This surgery is often performed in a staged manner with a laparoscopic total abdominal colectomy with end ileostomy as the initial surgery followed by a restorative proctectomy with ileal J-pouch anal anastomosis (IPAA) and possible loop ileostomy to be reversed at a later date. Patients with CD may present with strictures or fistulas involving other intestinal sites. Complex surgeries such as these are now being managed through minimally invasive techniques.

Robotic colon and rectal surgery is another evolution of these minimally invasive techniques that can improve a surgeon's dexterity and visualization. The use of robotic colon and rectal surgery in both UC and CD patients is increasing. The merits of robotic surgery are particularly suitable to colon and rectal surgery within the pelvis, since the narrow confines of the pelvis limit the mobility of standard laparoscopic instruments. As the traditional robot is often limited to operations involving one or two abdominal quadrants due to robot re-docking requirements, pelvic operations or segmental colectomies are the most common

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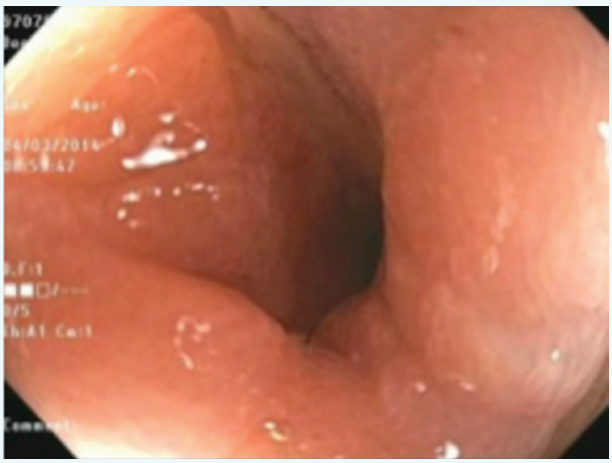

Figure 1. Colonoscopy demonstrating a stenotic terminal ileum

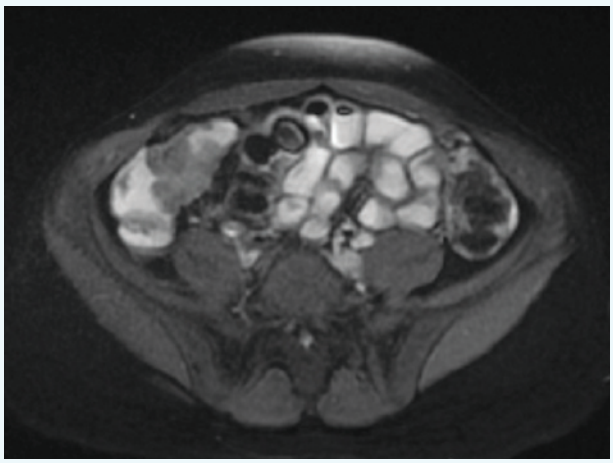

Figure 2. MR enterography demonstrating terminal ileal stenosis

A Surgeon's Case *(Continued from Page 3)*

colon and rectal surgeries performed with robotic techniques. However, cutting-edge robotic technology is now negating the need to re-dock the robot, so surgeons can better utilize the robotic platform in more complex surgeries, such as total abdominal colectomy or surgery for fistulizing CD.

Robotics may allow for lower rates of conversion to open colectomy when compared to standard minimally invasive techniques.

Robotic surgery offers benefits over traditional open colon and rectal surgeries. Robotic proctectomy for rectal adenocarcinoma is the most studied robotic colon and rectal procedure. Although no randomized controlled trials exist, similar intraoperative and postoperative complication rates, short-term outcomes, and oncologic equivalence have been demonstrated.[1,2] Studies of IBD robotic surgery are limited, although its use in restorative proctectomy with IPAA in IBD patients seems to be logical. Several small series demonstrate that restorative proctectomy with IPAA or completion proctectomy in IBD patients offer similar perioperative complications, short-term outcomes, and short-term functional results when compared to laparoscopic techniques.[3-5] Robotic surgery also has been applied to right colectomy, since this operation is limited to a single quadrant of the abdomen. This technique carries great applicability for CD patients who require an ileocecectomy or ileocolic resection. A single randomized controlled trial comparing standard laparoscopic vs. robotic right colectomy demonstrated similar perioperative and postoperative outcomes with no increased adverse events.[6]

Robotics may also aid in recovery. As previously mentioned, surgeon dexterity and visualization are improved. Additionally, robotic surgery demonstrates reduced postoperative pain and may reduce abdominal wall hernia rates, since extraction incisions can be moved to lower risk locations.[6] Most importantly, obesity rates are rising, even in the IBD population. Robotics may allow for lower rates of conversion to open colectomy when compared to standard minimally invasive techniques.[2]

THE FUTURE

The use of robotic technology in complex and multiquadrant colon and rectal surgeries, including IBD surgeries, continues to evolve, as cutting-edge robotic platforms now allow ease of operation throughout the entire abdominal cavity. This innovative use within colon and rectal surgery has demonstrated no increased risk of complications, length of stay, morbidity, or mortality when compared to laparoscopic techniques, and also demonstrates continued improved patient outcomes over open surgery.[2] Benefits of robotic surgery may include reducing postoperative pain and incisional hernia rates. Therefore, more difficult IBD operations may be approached with the robotic platform, thus offering potential benefits to this complex patient population.

Dr. Holder-Murray is an assistant professor of surgery with UPMC's Division of Colon and Rectal Surgery and has clinical interests in benign and malignant diseases of the colon, rectum, and anus.

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Nothing *Sweet* About This Syndrome

By Swaytha Ganesh, MD,
Gastroenterology Fellow, Year III

CASE

A 29-year-old male with known diagnosis of Crohn's disease presented with tender, painful erythematous papules, which started a week prior to presentation. The lesions first appeared as red, violaceous papules and progressed to painful plaques, nodules, and then pustules. The rash was associated with fever of >38.4 C. Although these lesions were extremely painful, there was no associated pruritus. The rash was noted on his neck, chest, back, and upper extremities but did not present on his palms, oral mucosa, or the soles of his feet. He also had associated ocular involvement with conjunctivitis and few lesions on the eyelids, as well as additional constitutional symptoms including myalgias and arthralgias. The patient had symptoms of six to seven watery, nonbloody, large volume diarrhea episodes per day that were accompanied by lower abdominal cramps. The patient was diagnosed with Crohn's colitis 15 years prior, and his disease is complicated by anal fissures and fistulas. His WBC upon admission was 25.1, and platelets were 518. Bands were 3%, and ESR was 208, with CRP at 90.

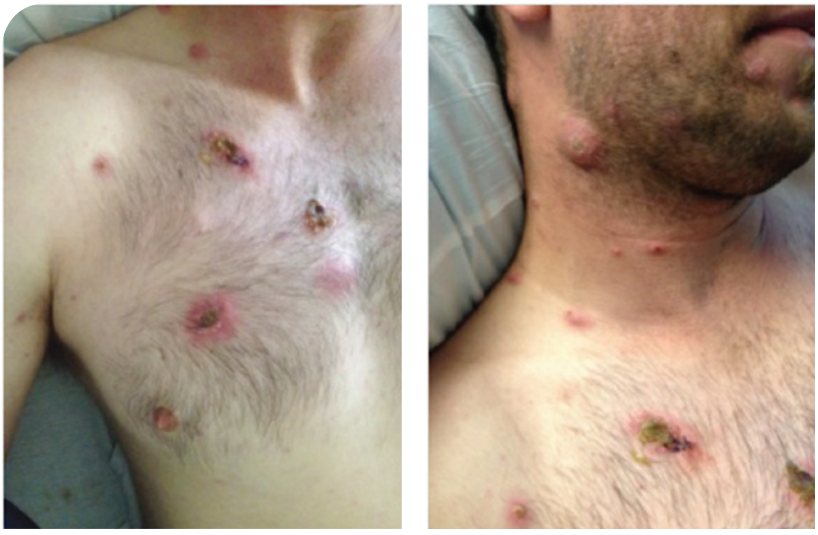

Image 1. Skin lesions: Multiple tender erythematous nodules, papules, and pustules, with erythematous bases on the upper extremities, back, neck, and chest.

The IgG, IgA, IgM, IgG4 lab levels and the C3/C4 levels were normal. Flexible sigmoidoscopy showed severe inflammation with ulcerations in the sigmoid colon consistent with severe active Crohn's colitis and fistula in the anal canal without erythema or purulent drainage. The patient had a skin biopsy that showed dense and diffuse neutrophilic infiltrates within the dermis accompanied by erythrocyte extravasation but no evidence of vasculitis. The underlying dermis was spared. Pathologic findings included pyrexia, elevated neutrophil count, tender erythematous skin lesions (papules, nodules, and plaques), and a diffuse infiltrate consisting of mature neutrophils typically found in the upper dermis in patients with underlying Crohn's disease.

DISCUSSION

The constellation of clinical symptoms, physical features, and pathologic findings led to a diagnosis of Sweet's syndrome. Sweet's syndrome is an acute febrile neutrophilic dermatosis, which is a noninfectious neutrophilic skin condition characterized by edematous violaceous papules and plaques, classically associated with fever. Neutrophilic dermatoses are inflammatory disorders where neutrophils infiltrate the skin without infection. The spectrum of neutrophilic dermatosis includes pyoderma gangrenosum, subcorneal pustulosis, rheumatoid neutrophilic dermatitis, neutrophilic urticaria, Still's disease, erythema marginatum, hereditary periodic fever syndrome, bowel-associated dermatosis-arthritis syndrome, and IgA pemphigus.

Sweet's syndrome is a rare extra-intestinal cutaneous manifestation of IBD. Although the syndrome has been described in some patients with quiescent IBD, the occurrence has mainly been reported during disease relapse or during a flare. There are three types of Sweet's syndrome:

- The classic presentation is associated with an upper respiratory tract or gastrointestinal infection, inflammatory bowel disease, and pregnancy.

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Association of Vitamin D Level With Clinical Status in Inflammatory Bowel Disease: A 5-Year Prospective Study

By Toufic Kabbani, MD, MPH,
Gastroenterology Fellow, Year III

Inflammatory bowel disease (IBD) includes ulcerative colitis (UC) and Crohn's disease (CD) and is characterized by chronic inflammation involving the gastro-intestinal tract. While the pathogenesis of IBD is not fully understood, immune dysregulation plays a pivotal role. Over the last decade, animal and human literature has emerged to support a role of vitamin D in regulating the innate and adaptive immune systems. Adding to its traditional role in calcium homeostasis, vitamin D acts directly on CD4+ cells, favoring the maturation of T2 helper lymphocytes (Th2) over T1 helper lymphocytes (Th1/Th17) and increasing the production of anti-inflammatory cytokines, such as IL-4, IL-5, and IL-13. Simultaneously, vitamin D decreases the release of pro-inflammatory cytokines, such as IFN-Ð and interleukin (IL)-2, and suppresses tumor necrosis factor-alpha (TNF-Ð) expression.

Several epidemiological studies have consistently shown higher prevalence of vitamin D deficiency in patients with IBD. The incidence and prevalence of IBD follows a "North-to-South gradient" with greatest incidence and prevalence in colder climates and lowest risk in subjects living closest to the equator. This suggests a protective role of vitamin D against inflammation and IBD and is supported by data from the Nurses' Health Study that demonstrates lower incidence of IBD in subjects with high baseline 25(OH) vitamin D plasma levels.

Despite these advances, no long-term prospective studies have evaluated the association of vitamin D status with clinical course in IBD. Our IBD research group, mentored by David Binion, MD, conducted a prospective study at UPMC to determine the relationship between vitamin D status over a multiyear time period and the clinical course in a large cohort of IBD patients.

The UPMC IBD Center maintains a consented, prospective, longitudinal natural history registry, which includes demographic, laboratory, clinical, endoscopic, radiological, pathological, and other clinical data on enrolled patients. Longitudinal data from 965 patients with a definitive IBD diagnosis has been analyzed. These patients underwent routine testing for serum 25(OH) vitamin D levels. Those who had vitamin D deficiency received supplements per a protocol that prescribed 50,000 IU of weekly or biweekly vitamin D supplements for at least 12 weeks, followed by repeat testing and supplementation when needed. Patients were categorized by mean serum 25(OH) vitamin D level over a five-year time period in accordance with the American and European Societies of Endocrinology. 25(OH) vitamin D concentrations <50 nmol/L, or 20 ng/mL, were consistent with vitamin D deficiency, whereas 25(OH) vitamin D concentrations of 51–74 nmol/L, or 21–29 ng/mL, indicated insufficiency. Concentrations >30 ng/mL or >75 nmol/L were considered to be normal or sufficient. For the purpose of our study, patients with vitamin D deficiency and insufficiency were clustered together and constituted the "low vitamin D group." Patients with concentrations >30 ng/mL constituted the "normal vitamin D group."

To approximate IBD clinical status, we monitored patterns of medication use, health care utilization, biochemical markers of inflammation, and disease activity scores. Prescriptions were monitored for steroids (Prednisone), immunomodulators (6-mercaptopurine, azathioprine, and methotrexate), anti-TNF agents (infliximab, adalimumab, and certolizumab), and narcotics. Since patients with poorly controlled disease are expected to utilize the health care system more often, we monitored health care utilization by accounting for the number of phone calls documented in electronic medical records (EMR) for an IBD-related complaint. The frequency of IBD-related emergency and clinic visits, CT scan imaging studies, hospital admissions, and surgeries were documented for analysis. In addition, health-related quality of life was assessed using the Short Inflammatory Bowel Disease Questionnaire (SIBDQ). SIBDQ is a simple 10-point questionnaire that has been used in previous studies and is a validated measure of health-related quality of life.

With a study population of 965 IBD patients (mean age 44 years, 52.3% female), 42% of the study subjects had persistently low vitamin D levels (<30 ng/mL). At study conclusion, significantly fewer patients (25.6%) had persistently low vitamin D levels ($p<0.0001$). Over the five-year study period, subjects with low vitamin D required significantly more steroids, biologics, narcotics, CT scans, emergency room visits, hospital admissions, and surgery compared to subjects with normal mean vitamin D levels ($p<0.05$). Importantly, subjects with low vitamin D levels had worse pain, disease activity, and quality of life ($p<0.05$) scores. Multivariate linear regression analyses were conducted to control for the effects of age, gender, smoking status, disease status (CD or UC), disease duration, and use of medications (e.g., steroids, immune-modulators, biologics, and narcotics). The normal

vitamin D group had a mean pain sub-score and mean SIBDQ score higher than the low vitamin D group ($p<0.001$ and $p=0.005$, respectively). As for CD activity, the normal vitamin D group had a lower mean Harvey-Bradshaw Index (HBI) score compared to the low vitamin D group ($p<0.001$). The same trend was noted in UC patients ($p<0.032$). Strikingly, zero-inflated Poisson regression model analysis demonstrated that the low vitamin D group utilized the health care system 1.44 times more than the normal group.

We also examined the effects of vitamin D supplementation on health care utilization by analyzing data of individuals who had five-year follow-up, received vitamin D supplements, had similar disease activity scores through the study period, and were on the same IBD maintenance therapy throughout the study. Linear regression analysis (Figure 1) demonstrates a negative correlation between vitamin D levels and health care utilization as signified by an R^2 of 0.9. The coefficient for this correlation was 0.2. For comparison, subjects with low vitamin D levels who did not receive vitamin D supplement prescriptions were analyzed as well. In general, their vitamin D levels were lower, and they utilized the health care system more often. Both groups had comparable distribution by age, gender, disease type, and use of medications at baseline.

Low vitamin D levels are uncommon in IBD. However, IBD patients with low mean vitamin D levels have worse disease activity, worse pain, a greater need for biologics, steroids and narcotics, and they experience increased health care utilization. Vitamin D status is an independent risk factor for worse IBD outcomes. Vitamin D supplementation also appears to be associated with improvement in health care utilization, which is reflective of improved overall health. Accumulating evidence supports the increasingly important role of vitamin D level in modulating IBD. Therefore, we recommend monitoring and supplementation of vitamin D in IBD subjects with low vitamin D levels.

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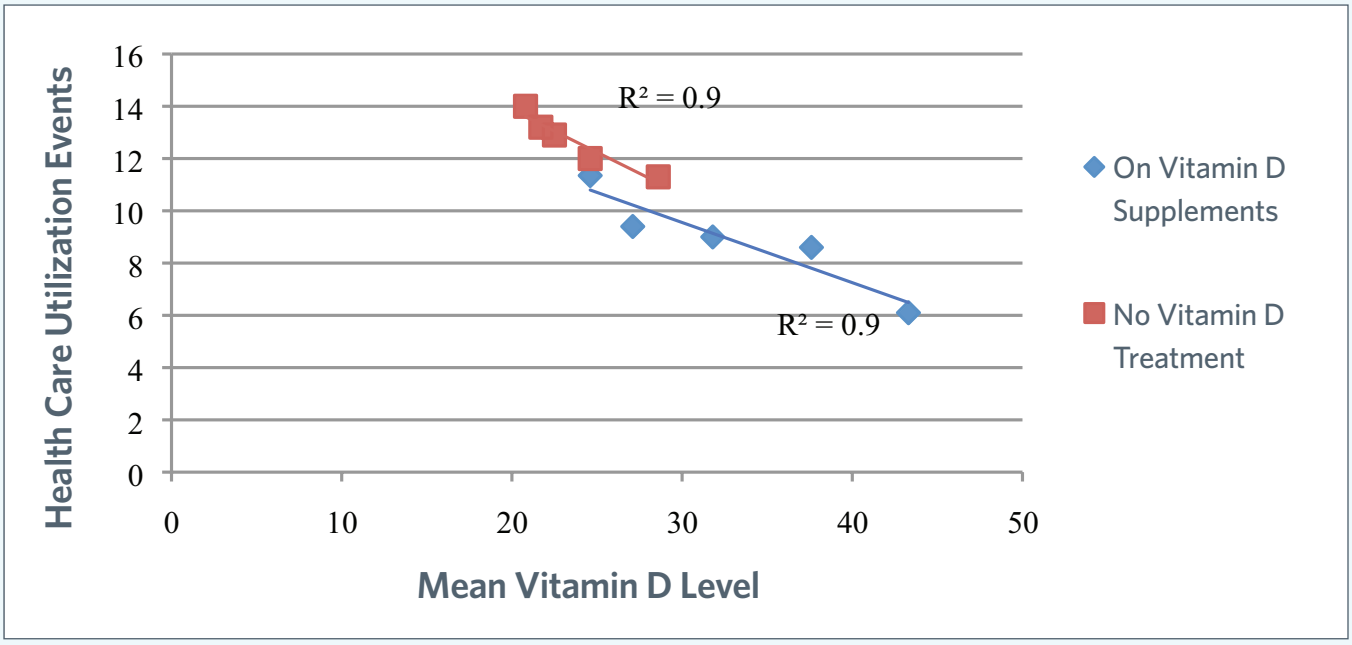

Figure 1. Effects of vitamin D supplementation on health care utilization

IBD Connect: More Time and Resources at the Patient's Bedside

By Randi Sigal and Pamela Wein-Levy

IBD Connect is a volunteer-founded and volunteer-led patient resource that provides support and education to link inpatients with inflammatory bowel disease (IBD), and their families, with services inside and outside of the hospital. IBD Connect offers support and encouragement through a network of volunteers who also have encountered struggles with IBD within their family.

In this era of patient-reported outcomes and patient-centered care, a volunteer support network such as IBD Connect can fill gaps, even if waning dollars and time threaten optimal patient treatment levels.

Ms. Sigal and Ms. Wein-Levy are the co-founders of IBD Connect. Abstracts about their work have been accepted at national symposia, and they have been invited to speak at national IBD conferences. Randi and Pam were honored with the 2015 Jefferson Award for Public Service for their work with IBD Connect.

IBD Connect's person-to-person interaction diminishes fear, provides physician-approved information, and restores hope while demonstrating the ability to live a fulfilling life.

IBD Connect launched in September 2012 to target the vulnerable IBD inpatient population by attending to the psychosocial stress generated by hospitalization. The goal was to visit inpatients with ulcerative colitis and Crohn's disease at UPMC Presbyterian. Since then, IBD Connect volunteers have made more than 1,170 bedside visits with patients and families, with a median visit length of 30 minutes. They have visited 560 unique IBD patients. More than one-third of these patients were seen more than one time during their first admission, and 28% were seen during more than one admission.

People find comfort by connecting with others who have shared similar experiences, as IBD patients, their families, and caregivers can face very stressful challenges. IBD Connect's person-to-person interaction diminishes fear, provides physician-approved information, and restores hope while demonstrating the ability to live a fulfilling life.

Patients and families can share important information and questions with volunteers that might not be openly discussed with health care

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IBD Connect

providers. IBD Connect works closely with the inpatient IBD staff (i.e., gastroenterologists, surgeons, psychosocial caregivers, nurses, the enterostomal team, and social workers). IBD Connect also collaborates with UPMC's Total Care-IBD Program, an IBD Medical Home model. The reciprocal communication and coordination among members of the clinical team and the IBD Connect coordinators markedly enhance patient care.

The most frequently asked questions from patients and families involve diet, pain, stress, and the ability to resume normalcy.

As a result, 90% of patients who were visited by IBD Connect have been referred to a dietitian or a behavioral health specialist. Patients have been surveyed anonymously, and 92% reported the program as being helpful, rating their experience as excellent.

Health care centers treating IBD patients can orchestrate excellent care, but incorporating a simple human element like IBD Connect can achieve the balance necessary to improve patient outcomes. Further information about IBD Connect is available on UPMC's IBD Center website or by contacting IBD Connect directly at 412-864-1784 or IBD.Connect@gmail.com.

Pittsburgh Gut Club

The **Pittsburgh Gut Club** is a gastroenterology education and networking series designed to bring novel and relevant subspecialty advancements to the greater Pittsburgh region. All gastroenterologists, physicians, and allied health professionals are encouraged to attend.

Learning Objectives:

- Review state-of-the-art information on the pathogenesis of gastrointestinal and liver diseases
- Review the latest procedural and diagnostic advancements for gastroenterology practice
- Identify current treatments available for GI diseases and discuss future advancements

Sponsored by:

Division of Gastroenterology, Hepatology, and Nutrition
University of Pittsburgh School of Medicine
UPMC Center for Continuing Education in the Health Sciences

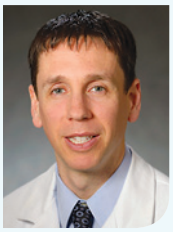
Course Director:

Robert E. Schoen, MD, MPH
Professor of Medicine and Epidemiology
University of Pittsburgh School of Medicine

Contact Information:

For more information about the Gut Club speaker series, or to reserve a seat for an upcoming event, please contact:
Joy Jenko Merusi
Division of Gastroenterology, Hepatology, and Nutrition
Email: joj2@pitt.edu

2016 Gut Club visiting speakers include:



February 18, 2016

Immunotherapies for GI Malignancies: On the Verge of a Treatment Paradigm Shift

Gregory L. Beatty, MD, PhD
Assistant Professor of Medicine
University of Pennsylvania Perelman School of Medicine
Philadelphia, PA

April 28, 2016

Leveraging Technology: Telemedicine and Treatment of Hepatitis and Liver Disease

Grace Li-Chun Su, MD
Professor of Medicine, University of Michigan
Chief, Gastroenterology Section
Associate Chief of Medicine, Subspecialty Care and Access, VA Ann Arbor Healthcare Systems
Ann Arbor, MI

May 12, 2016

Optimizing the Treatment of IBD

Adam Cheifetz, MD
Associate Professor of Medicine, Harvard Medical School
Director, Center for Inflammatory Bowel Disease, Beth Israel Deaconess Medical Center
Boston, MA

DEPARTMENT NEWS

Miguel Regueiro, MD, Discusses Long-Term Impact of IBD Treatment

Dr. Regueiro was among four national IBD subspecialists featured in the December 2015 issue of *Gastroenterology and Endoscopy News* discussing the use of the Lémann Index. This index assesses cumulative structural bowel damage in patients with Crohn's disease. Dr. Regueiro is a professor of medicine with the Division of Gastroenterology, Hepatology and Nutrition. He serves as a co-director and the clinical head for the UPMC Inflammatory Bowel Disease Center.

Eva Szigethy, MD, PhD, Challenges Opioid Use for Abdominal Pain

Dr. Szigethy was featured as the lead contributor for "Opioid Scripts for Chronic Bowel Pain Persist Despite High Risks, Few Rewards," in the November 2015 issue of *Gastroenterology and Endoscopy News.* In this article, she discusses the lack of evidence to support long-term opioid use for chronic abdominal pain.

Dr. Szigethy is an associate professor of medicine and psychiatry with the University of Pittsburgh and UPMC Division of Gastroenterology, Hepatology, and Nutrition, where she is the founder and director of the Division's **Visceral Inflammation and Pain (VIP) Center**.

UPMC and U.S. News & World Report

The Division of Gastroenterology, Hepatology and Nutrition has been ranked as the 7th Best Hospital for Adult Gastroenterology and GI Surgery in the nation by *U.S. News & World Report.*

"Any listing among the top hospitals is a great achievement," commented Division Chief **David Whitcomb, MD, PhD**. "However, to be ranked so highly among our peer GI programs across the nation is a true honor. This ranking is a fitting tribute to the successful work of our gastroenterology and hepatology medical professionals, our surgery partners, the terrific patients, and all who work to support gastrointestinal health in western Pennsylvania and throughout the U.S."

Total Care-IBD: UPMC's IBD Medical Home *(Continued from Page 1)*

The goal of UPMC Total Care-IBD is to take a multidisciplinary and personalized approach to each patient to determine what works best for that individual. In essence, the patient is put in the center of the "medical universe" with a team of specialists revolving around the needs of each person and his or her family.

In Total Care-IBD, a patient's IBD gastroenterologist becomes his or her principle physician and coordinates the patient's full scope of care. This "total care" approach enables the IBD team to safeguard against unnecessary medications and testing, unplanned ER visits, or hospitalizations, and gives the patient one single comprehensive place to turn. For IBD-related needs, the Total Care-IBD patient has seamless access to a neighborhood of IBD medical providers, such as behavioral health experts, social workers, nurse practitioners, and dietitians, through office visits, telephone calls, and telemedicine.

Total Care-IBD patients have expanded access to ancillary services as well. Behavioral health counseling is offered through the Visceral Inflammation and Pain (VIP) Center, with services such as pain management, mental health counseling, behavioral strategies to improve fatigue, sleep, and stress, and if needed, medication management. By embedding a behavioral health team in the IBD Medical Home and co-locating care with the gastroenterologist, patients receive comprehensive mind and gut care at every visit. Another integral part of the team approach is the IBD Connect program, a support network of volunteers who have personally experienced IBD and are available for hospital visits and open discussions about the diverse issues surrounding these digestive diseases.

For more information about Total Care-IBD or the UPMC IBD Center, call 412-647-2183.

Dr. Regueiro and Dr. Szigethy co-direct Total Care-IBD. Dr. Regueiro is a professor of medicine and serves as a co-director of the IBD Center, vice chair for education for the Division of Gastroenterology, Hepatology, and Nutrition. and UPMC senior medical lead of specialty medical homes. Dr. Szigethy is an associate professor of medicine and psychiatry, and is the founder and director of the Division's Visceral Inflammation and Pain (VIP) Center.

Nothing *Sweet* About This Syndrome *(Continued from Page 5)*

- The second type is usually associated with malignancy, in which the dermatosis is either the presenting manifestation of a previously undiagnosed cancer or the recurrence of malignancy in an oncology patient.
- The third is a drug-induced presentation, which is precipitated by the patient having received a dermatosis-associated medication.

Sweet's syndrome is most common between the ages of 30 to 60 and has a strong predilection for females (87%). The rash is associated with active disease in 67% to 80% of patients and may precede intestinal symptoms. Incidence in IBD is more rare than that of PG. To date, only about 40 cases of Sweet's syndrome have been reported in association with IBD, more commonly in patients with CD (70%) compared with UC. Based on reported data, 28% of the cases will present at the time of diagnosis of IBD, 52% after the diagnosis, and 20% before the diagnosis.

FINDINGS

The pathophysiology of Sweet's syndrome is due to dysregulation of cytokines. Certain cytokines and chemokines may contribute to the initiation and propagation of the inflammatory response. Some of the cytokines involved are G-CSF, granulocyte-macrophage colony-stimulating factor (GM-CSF), and interleukins (e.g., IL-1, IL-3, IL-6, and IL-8). The other pathophysiologic processes implicated include genetic sensitivity, hypersensitivity reaction, or an immune reaction to bacterial, viral, tumor, drug, or other antigens, causing neutrophil activation and infiltration. Treatment usually involves steroids (either systemic or topical), potassium iodide, indomethacin, cyclosporine, and dapsone. This patient was started on IV steroids followed by an oral steroid taper. He did very well and followed up in the clinic afterwards.

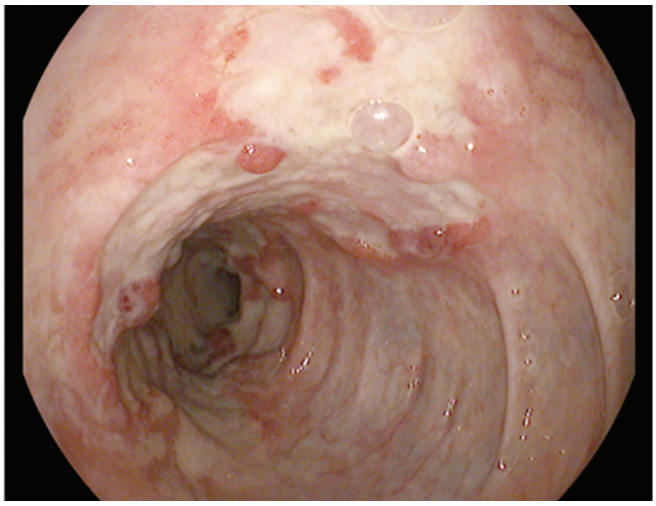


Image 2. Severe inflammation with ulcerations in sigmoid colon consistent with severe active Crohn's colitis

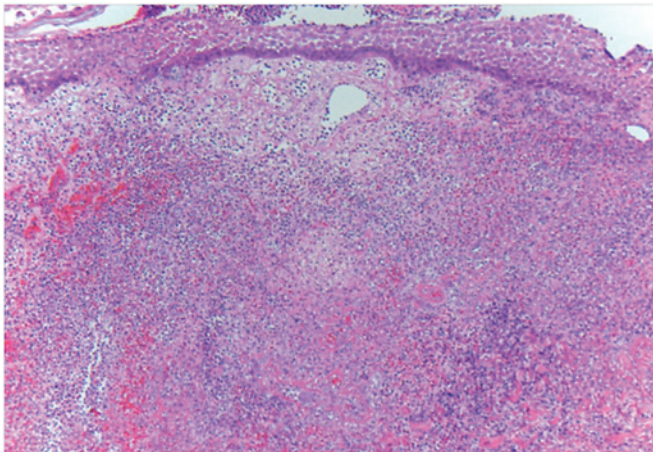


Image 3. Dense and diffuse neutrophilic infiltrates within the dermis with associated erythrocyte extravasation, but no evidence of vasculitis. The overlying dermis is spared.

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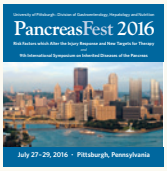

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UPMC Division of Gastroenterology, Hepatology, and Nutrition

EDITORS
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Janet R. Harrison, MD
Zachary Zator, MD
Joy Jenko Merusi, MA

ADDRESS CORRESPONDENCE TO:
Joy Jenko Merusi
joj2@pitt.edu

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