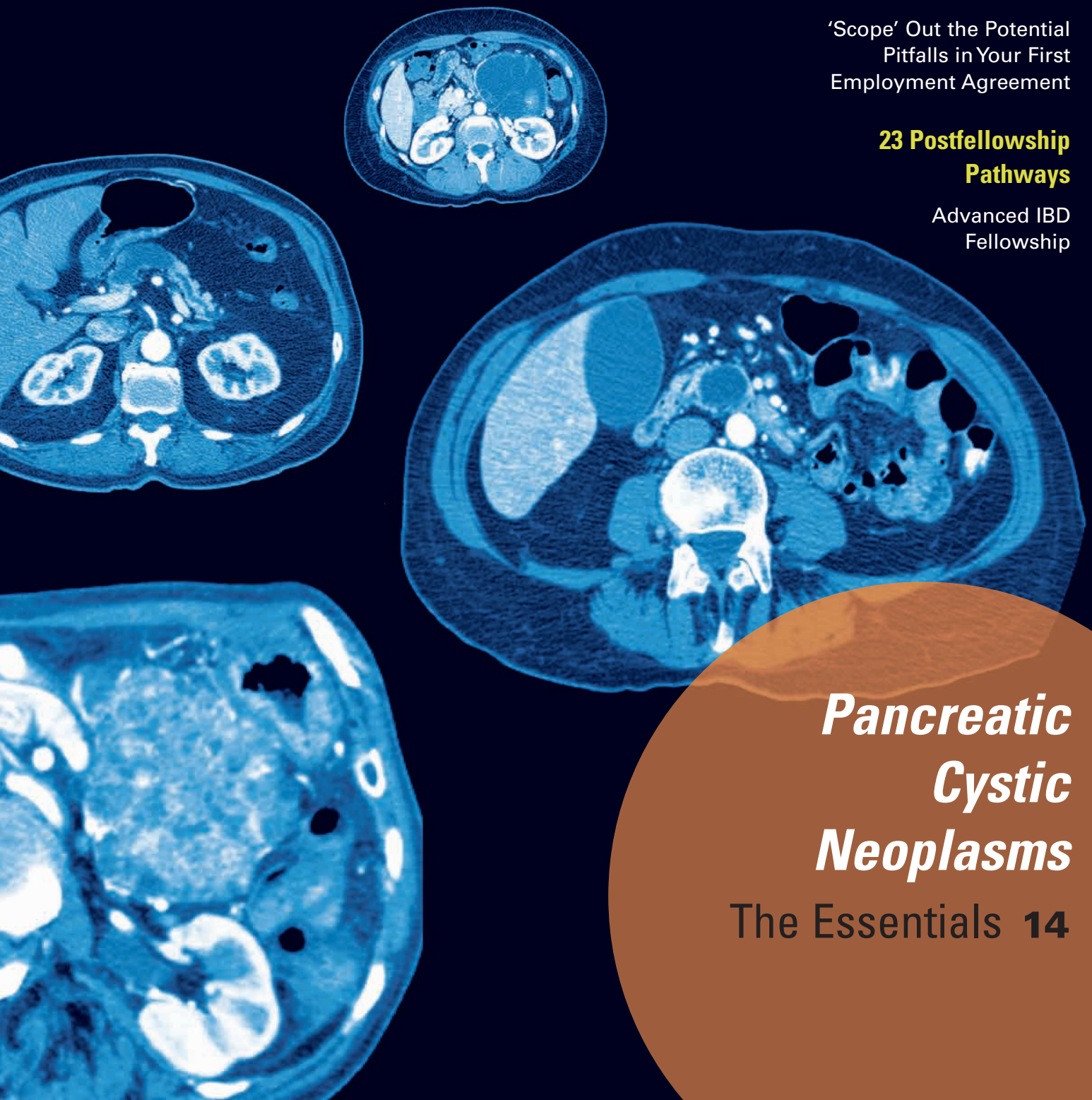
The NEW GASTROENTEROLOGIST

INSIGHTS FOR FELLOWS & YOUNG GIs

A Quarterly Supplement to GI & Hepatology News | Winter 2015



Pancreatic Cystic Neoplasms

Letter
FROM THE EDITOR

Bryson W. Katona is an instructor of medicine in the division of gastroenterology at the University of Pennsylvania.

Dear Colleagues,

Pancreatic cysts are being discovered at an increasing rate, oftentimes as an incidental finding given the increased use of abdominal imaging modalities. Therefore, understanding the classification, diagnosis, and management of pancreatic cysts is an increasingly relevant topic in our field. In this issue of *The New Gastroenterologist*, Saurabh Mukewar and Suresh Chari from the Mayo Clinic provide a fantastic overview of the current state of pancreatic cyst management.

Also in this issue is an informative piece about picking the optimal mentor by Megan Adams and Joel Rubenstein (her GI training and early career mentor), both from the University of Michigan. In the Postfellowship Pathways section, Sasha Taleban from the University of Arizona provides an excellent overview of advanced inflammatory bowel disease fellowships. Additional content includes coverage of a talk from Nicholas Davidson (Washington University in St. Louis) on how to succeed in academic medicine and an enlightening article on common pitfalls encountered when reviewing and interpreting new employment contracts.

Finally, in 2016 the AGA will host five Regional Practice Skills Workshops – a fantastic resource for GI fellows – and in this issue G. Avinash Ketwaroo (Baylor College of Medicine) provides an overview of this opportunity. If you would like to read *The New Gastroenterologist* on your mobile device, please download our free app, which is available on iTunes, Google Play, and Amazon, and you can always read the free online edition at either www.gastro.org or www.gihepnews.com. If you have any feedback about *The New Gastroenterologist*, as well as ideas or contributions for future issues, please e-mail me at bryson.katona@uphs.upenn.edu or Ryan Farrell at rfarrell@gastro.org.

Sincerely,
Bryson W. Katona, M.D., Ph.D.
Editor in Chief

The NEW GASTROENTEROLOGIST

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Bryson W. Katona, M.D., Ph.D.

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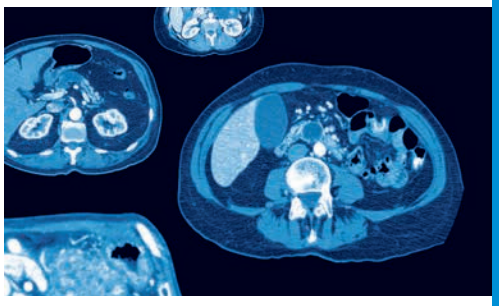
ON THE COVER

Cross-sectional images of various types of pancreatic cysts.

CT scans courtesy Dr. Mukewar and Dr. Chari

IN THIS ISSUE



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QUESTIONS // Answers on page 9

Q1: What is the most important predictor of disease progression and risk for HCC in patients with chronic HBV infection?

A. HBV genotype
B. HBV DNA level
C. Elevated serum ALT
D. Tobacco use
E. Persistently normal ALT

Q2: A 35-year-old woman presents to you for evaluation of a 10-year history of constipation. Her symptoms became much worse after she had her child by cesarean section 10 years ago. She also has mild abdominal discomfort with gas and bloating. She has tried fiber and several laxatives such as lactulose, polyethylene glycol, mineral oil, and lubiprostone.

Her abdomen is soft, not tender; rectal exam: no masses or stool in the rectum. She has a normal complete blood count, comprehensive metabolic panel, and thyroid stimulation hormone (TSH) level with her primary care physician.

The next best step in this patient's management is which of the following?

A. Colonoscopy
B. Repeat TSH
C. Colonic transit study
D. Barium enema
E. Computerized tomography of the abdomen and pelvis

For more information about DDSEP© visit gastro.org/ddsep

What's Your Diagnosis?

Atypical acute liver failure in acute myeloid leukemia

Published previously in Gastroenterology (2014;147:e3-4)

By Adam E. Mikolajczyk, M.D., Shreya Sengupta, M.D., and Helen S. Te, M.D.

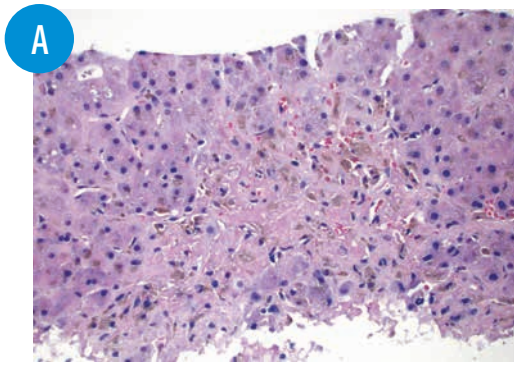
A 65-year-old white woman with therapy-related acute myeloid leukemia was admitted to the intensive care unit with altered mental status 33 days after completing induction chemotherapy with azacitadine, high-dose cytarabine, and mitoxantrone. She had a history of breast cancer treated 12 years prior with four cycles of cyclophosphamide and doxorubicin, local radiation therapy, and tamoxifen, as well as mantle cell lymphoma treated 6 years prior with bendamustine, rituximab, and radiation therapy to a lytic lesion of the L1 vertebrae.

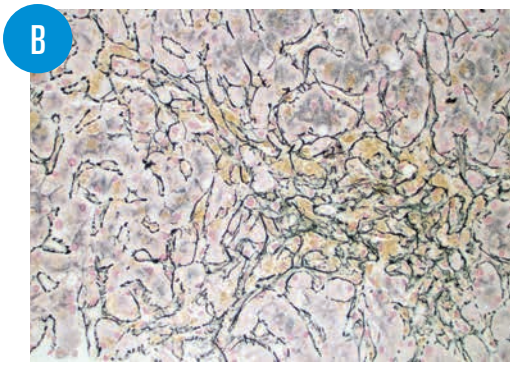
On physical examination, she was afebrile, normotensive (133/89 mm Hg), but obtunded. She had scleral icterus as well as mild abdominal distension with minimal ascites. There were no recent additions to her medication list; the only potentially hepatotoxic agent present was prophylactic posaconazole, which had been discontinued several days prior. Her laboratory studies revealed neutropenia (absolute neutrophil count, 90,000/microL) and evidence of acute hepatic dysfunction (aspartate aminotransferase [AST], 4,891 U/L; alanine aminotransferase [ALT], 2,070 U/L; International Normalized Ratio [INR], 3.3). The total bilirubin (TB) was 5.4 mg/dL, alkaline phosphatase, 90 U/L, and serum ammonia, 61 microg/dL. There was no serologic evidence of acute varicella zoster or hepatitis A, B, C, D, or E infections. Furthermore, polymerase chain reaction assays for herpes simplex virus, Epstein-Barr virus, cytomegalovirus, human herpesvirus 6, and adenovirus were all negative. Thick and thin blood smears ruled out a transfusion-related trypanosomiasis infection; a urine toxicology screen was unremarkable, and a serum acetaminophen level was less than 3.0 microg/mL. Abdominal ultrasound revealed hepatomegaly (18.7 cm), ascites, a large right pleural effusion, and patent hepatic vasculature. A liver biopsy had been deferred given her coagulopathy and persistent thrombocytopenia (less than 10,000/microL). Thus, the etiology of her acute hepatic dysfunction remained unknown.

Thirteen days later, despite improvements in coagulopathy (INR 1.5), aminotransferases (AST, 68 U/L; ALT, 36 U/L), and mental status, she continued to have worsening cholestasis (TB, 16.6 mg/dL; conjugated, 12.6 mg/dL; AP, 175 U/L, which peaked at 492 U/L days later). Thus, a liver biopsy was finally obtained (Figure A, B). ■

What was the elusive etiology of this patient's acute liver failure?

Dr. Mikolajczyk, Dr. Sengupta, and Dr. Te are in the department of medicine at The University of Chicago.





See ***The Answer*** on page 30

AGA Outlook

For more information about upcoming events and awards deadlines, please visit www.gastro.org

Upcoming Events

Dec. 10-12, 2015
2015 Advances in Inflammatory Bowel Diseases, Crohn's & Colitis Foundation's Clinical & Research Conference
Orlando, FL

Feb. 5-6, 2016
Women's Leadership Conference — Experienced Track & Early Career Track
Apply to participate in the premier leadership development event that is tailor-made for women gastroenterologists.
Irving, TX

Feb. 20; Mar. 18; Apr. 6, 2016
Practice Skills Workshops
These workshops are targeted to GI fellows, and will provide valuable insight and information into how to start a successful career in a variety of practice settings. These workshops will be held at five separate locations.
San Diego, CA (2/20); Houston, TX (2/20); Boston, MA (3/18); Philadelphia, PA (4/6); New York, NY (2/20)

Feb. 25-26, 2016
Psychosocial Care Integration in Inflammatory Bowel Disease & Chronic Illness Management
Universal City, CA

Mar. 11-12, 2016
AGA-AASLD Academic Skills Workshop
Take advantage of valuable tools to shape a successful career in the highly competitive environment of medical academia. This enriching learning opportunity will provide future physician-scientists career/life guidance via mentor-mentee pairings.
Phoenix, AZ

May 21-24, 2016
Digestive Disease Week® (DDW)
The premier meeting for the GI professional. Every year it attracts approximately 15,000 physicians, researchers, and academics from around the world who desire to stay up-to-date in the field.
San Diego, CA

Awards Application Deadlines

AGA-Rome Foundation Functional GI and Motility Disorders Pilot Research Award
Deadline: Jan. 15, 2016

AGA-Elsevier Pilot Research Award
Deadline: Jan. 15, 2016

AGA-Elsevier Gut Microbiome Pilot Research Award
Deadline: Jan. 15, 2016

AGA-Caroline Craig Augustyn & Damian Augustyn Award in Digestive Cancer
Deadline: Jan. 29, 2016

AGA-Covidien Research & Development Pilot Award in Technology
Deadline: Jan. 29, 2016

16th AGA-June & Donald O. Castell, M.D., Esophageal Clinical Research Award
Deadline: Jan. 29, 2016

AGA-Eli & Edythe Broad Student Research Fellowship(s)
Deadline: Feb. 12, 2016

AGA/AGA-GRG Fellow Travel and Abstract of the Year Awards
Deadline: Feb. 26, 2016

AGA-Moti L. & Kamla Rustgi International Travel Awards
Deadline: Feb. 26, 2016

AGA Student Abstract Prizes
Deadline: March 4, 2016

News from the AGA

Future Leaders Share Their Visions for AGA

During the AGA Leadership Cabinet Meeting in Washington, D.C., on Sept. 18, members of the inaugural class of the AGA Future Leaders Program presented on how they envision advancing AGA's Strategic Plan. This was part of a larger Future Leaders Program that coincided with the AGA Joint Committee Meetings, which included leadership training and advocacy activities on Capitol Hill.

Over the past several months, future leaders worked in teams of two along with their mentors to develop proposals that support AGA's strategic goals related to practice and quality, research and innovation, education and training, advocacy, publications, or member engagement.

Each team then presented their proposals at the Leadership Cabinet Meeting to the AGA Governing Board, committee chairs, and chairs-elect, who were encouraged to ask questions and evaluate and rate the presentations in real time.

The three highest-rated presentations and presenters (pictured with AGA Governing Board members Suzanne Rose, M.D., MSEd, AGAF, Byron L. Cryer, M.D., Sheila E. Crowe, M.D., AGAF, and Michael Camilleri, M.D., AGAF) include:

- "Maintaining and enhancing the physician scientist researcher in gastroenterology," presented by Neelandu Dey, M.D., and Kara Gross Margolis, M.D., with their mentor Xavier Llor, M.D.
- "Trends in the delivery of medical education," presented by Silvio de Melo Jr., M.D., and Brijen J. Shah, M.D., with their mentor Gary W. Falk, M.D., MS, AGAF
- "Fostering global gastrointestinal health," presented by Gilaad G. Kaplan, M.D., and Benjamin Lebwohl, M.D., with mentor Darrell Pardi, M.D., MS

AGA congratulates all of the future leaders and their mentors for proposing many new and innovative programs that will help advance the science and practice of gastroenterology. See the full list of future leaders and mentors on gastro.org (http://www.gastro.org/news_items/2015/9/23/future-leaders-share-their-visions-for-aga). ■

From left to right: Suzanne Rose, M.D., MSEd; Xavier Llor, M.D.; Byron L. Cryer, M.D.; Neelendu Dey M.D.; Kara Gross Margolis, M.D.; Sheila E. Crowe, M.D., AGAF; Brijen J. Shah, M.D.; Michael Camilleri, M.D., AGAF; Gary W. Falk, M.D., MS, AGAF; Darrell Pardi, M.D., MS; Benjamin Lebwohl, M.D.; and Gilaad Kaplan, M.D.

AGA Advocates HHS Expand Support of Quality Programs

As part of our commitment to helping gastroenterologists demonstrate their value, AGA this fall called on HHS and CMS to release measures-development funding and recognize the important role that physician-led organizations play in measures development.

In the letter, AGA, AMA, specialty societies, and state medical societies note that "physician-led organizations are best suited to develop new measures that are useful to their members, harmonize with specialty societies' clinical data registry activities, complement specialty developed alternative payment models and fulfill their long-term goals of improving the profession and providing lifelong learning opportunities for their members."

The feedback was in response to provisions within the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) legislation. This legislation will change the way physicians are reimbursed in the coming years. Demonstrating your value by reporting on quality measures via PQRS in 2015 will affect Medicare reimbursement rates in 2017.

Our quality measures reporting program, the AGA Digestive Health Recognition Program™ (DHRP), allows participants to submit data for the CMS Physician Quality Reporting System (PQRS). DHRP is comprised of registries that cover three clinical topics and support two PQRS reporting options.

The deadline to enroll for the 2015 PQRS year is Feb. 8, 2016. Members pay $300 to enroll by visiting http://www.gastro.org/DHRP. ■

Congress Supports CRC Screening

AGA, ASGE, and ACG applaud 27 members of the U.S. Senate and 94 members of the U.S. House of Representatives for calling on CMS in late September to consider the effect colonoscopy has had in reducing the incidence of colorectal cancer when determining whether a drastic reduction in Medicare payment for colonoscopy is justified.

The three gastroenterology societies, which together represent virtually every gastroenterologist in the nation, specifically thank Senators Ben Cardin, D-MD, and Bill Cassidy, M.D., R-LA, and Representatives Donald Payne Jr., D-NJ, and Leonard Lance, R-NJ, who championed these U.S. Senate and House letters to CMS.

"Thanks to increased screening rates, colorectal cancer incidence rates in the United States have dropped by more than 30% over the past decade," Sen. Cardin said. "We must avoid any action that could jeopardize the significant progress we've made. Working together, we can reach HHS's goal of an 80% screening rate by 2018."

"As a gastroenterologist, I know the value of improving colorectal cancer screening rates in Medicare. We must ensure that any changes made in Medicare reimbursement don't hamper the progress made in cancer screening," Sen. Cassidy said. "These screenings help reduce the rate of colorectal cancer, which is devastating for patients, and costly to the system."

On Sept. 8, AGA, ASGE, and ACG submitted formal comments to CMS that include an in-depth and detailed review of CMS's flawed methodologies and rationale for making these cuts.

"Fortunately, Senators Ben Cardin and Bill Cassidy, and Representatives Donald Payne Jr. and Leonard Lance, see that the proposed 2016 Medicare reimbursement cuts could limit patient access to colorectal cancer screening," said Michael Camilleri, M.D., AGAF, President, AGA Institute. "We thank them for asking CMS to carefully consider stakeholder comments on the proposed rule and determine whether deep reductions in reimbursement rates are justified by the evidence and whether cuts are in the interests of Medicare beneficiaries."■

Travel Awards Available

Twenty inaugural DDW® Basic Science Travel Grants will be awarded to abstract authors for the 2016 meeting. Presenting authors of selected abstracts featuring basic science research will receive travel awards and recognition at a reception at DDW.

Domestic and international travel awards are also available through the AGA Research Foundation. These awards were created to support travel and related expenses to attend DDW. Learn more at http://www.gastro.org/research-funding. ■

Regional Practice Skills Workshops: Making a Successful Transition from Training to Practice

By G. Avinash Ketwaroo, M.D., M.Sc.

Dr. Ketwaroo is chair-elect of the AGA Trainee and Young GI Committee and assistant professor of medicine, division of gastroenterology, Baylor College of Medicine, Houston.

After a rewarding and productive period of training in gastroenterology, choosing the right postfellowship career can be challenging. Academic options offer the opportunity to perform clinically important research, teach, and share the camaraderie of colleagues charged with a similar vision. But what is life really like in academics and are there different paths to promotion? Private practice is also appealing, with its potential for higher reimbursement and focus on clinical care. But how will health care reform and reimbursement cuts impact your position or your practice, and how will you navigate the increasingly complex processes of Maintenance of Certification? Furthermore, there are hybrid models and opportunities in industry and consulting to be considered.

After choosing a path, the interview process can be an exciting but challenging time. There are details of contract negotiation and interpretation to be considered. ICD-10, other billing and coding issues, and compliance with quality reporting guidelines need to be reviewed, but are usually not part of formal gastroenterology training. As you transition from competent trainee to expert gastroenterologist, how will you position yourself as a leader in the field, earn promotions within an academic environment, run a successful private practice, and maintain a desirable work-life balance?

These questions are on the mind of every senior gastroenterology fellow. In an effort to provide answers, the AGA has arranged Regional Practice Skills Workshops focused on the transition from GI fellow to attending. These half-day events will include sessions focusing on what life is really like in a variety of postfellowship careers as well as navigating the job search and positioning oneself for success as a young attending. Presented by national and regional experts, these workshops provide relevant local information and present an excellent opportunity for networking. A focus on many of the issues fellows find challenging makes these workshops a unique and invaluable experience. Regional Practice Skills Workshops were initially held in 2014 in three cities: Chicago, Boston, and Los Angeles, and were designed by members of the AGA Trainee and Young GI Committee.

Widely praised by attendees, the AGA has expanded to five cities in 2016. There is no registration fee and all GI fellows are encouraged to attend. For further information, please visit www.gastro.org/psw, email trainees@gastro.org, or contact your program director. We look forward to seeing you there! ■

Location	Host Institution	Date
Houston, TX	Baylor College of Medicine	February 20, 2016
New York, NY	Mount Sinai School of Medicine	February 20, 2016
San Diego, CA	University of California, San Diego	February 20, 2016
Boston, MA	Beth Israel Deaconess Medical Center	March 18, 2016
Philadelphia, PA	University of Pennsylvania	April 6, 2016

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ANSWERS

// From page 3

Q1: ANSWER: B

CRITIQUE
All four factors may contribute to liver disease progression from chronic HBV infection, but elevated hepatitis B DNA represents the most important risk factor for histologic progression to cirrhosis and the development of hepatocellular carcinoma. Large prospective observational cohort studies have demonstrated significant differences in the risk for HCC based on baseline HBV DNA levels in patients observed for up to 13 years duration. HBV genotype C has been associated with an increased risk for severe liver disease and HCC when compared with individuals with genotype B infection. Elevated serum ALT is associated with an increased risk of liver fibrosis progression and HCC risk. Tobacco use is associated with increased HCC risk but does not significantly impact liver fibrosis progression.

References

1. Chen C.J., et al. JAMA 2006;295:65-73.
2. Keeffe E.B., et al. Clin. Gastroenterol. Hepatol. 2006;4:936-62.

Q2: ANSWER: C

CRITIQUE
In the absence of alarm signs and symptoms, there is no evidence to support the use of laboratory testing, x-rays, or endoscopy in the routine management of constipated patients. However, there is good evidence to support the use of physiological tests (e.g., manometry, colon transit studies) to define the pathophysiologic features and to direct treatment.

Choice A: In the absence of alarm signs and symptoms, there is no evidence to support the use of laboratory testing, x-rays, or endoscopy in the routine management of constipated patients.

Choice B: This patient has no other signs or symptoms of thyroid disease. Therefore, repeat serologic testing would not be indicated.

Choice D: There is a very low likelihood that there is a structural colonic abnormality. Therefore, barium enema is not indicated.

Choice E: Computed tomography is not indicated as there is absence of obstructive symptoms in the patient.

References

1. Brandt L.J., et al. Am J Gastroenterol. 2005:100:S5-21.
2. Longstreth G.F., et al. Gastroenterol. 2006:130:1480-91.

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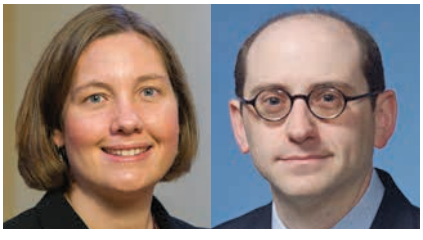
Mentorship 101: How to Make the Most of the Mentor-Mentee Relationship

By Megan A. Adams, M.D., and Joel H. Rubenstein, M.D.



Dr. Adams is a staff physician at the Ann Arbor Veterans Affairs Medical Center and a clinical lecturer in the division of gastroenterology, department of internal medicine, University of Michigan Medical School, Ann Arbor. Dr. Rubenstein is a a research investigator in the Veterans Affairs Center for Clinical Management Research and associate professor in the division of gastroenterology, University of Michigan.

"If you light a lamp for someone, it will also brighten your own path." – Buddhist Proverb

Much has been written regarding the importance of mentorship in helping young physicians make important career decisions and achieve their goals. Having a good mentor is important for all young physicians and critical for those hoping to pursue an academic career. Academic medicine is built on the backs of thousands of successful mentor-mentee relationships. Yet the process by which one chooses a mentor and the critical elements of a successful mentor-mentee relationship are less than clear. Below is a roadmap to guide you in fostering a fulfilling and productive mentor-mentee relationship.

While we recommend that young gastroenterologists identify a single primary mentor, the reality is that multiple supplemental mentors may be required to complement your varied interests.

Establishing the relationship

Characteristics of a good mentor

The conventional wisdom is that an aspiring academic gastroenterologist must have a senior mentor, ideally someone in the mentee's area of interest who has achieved the status of full professor. However, there are many examples of successful relationships involving more junior faculty, as long as the mentor already has some track record of success. In our minds, more important than seniority is that there is a personality fit between mentor and mentee such that open and honest conversations can be had regarding career direction and research proposals. Having complementary work styles is also vitally important. For example, if you like to communicate primarily by email, a mentor who prefers verbal communication during in-person meetings may not be ideal. More importantly, your primary mentor must be responsive and open to giving frank feedback. They must be established enough in their careers to be able to understand the intricacies of academic promotion and metrics of success, but also willing to invest time and energy to meet with relative frequency. Both parties should enter into the relationship purposefully and be prepared to participate actively. We have found that scheduling a biweekly meeting, with email communication in between, is an effective way to keep the lines of communication open.

Working on a small project with a potential mentor early in your fellowship or as junior faculty is a great way to determine whether you have complementary work styles. Are they responsive to emails? Do they provide helpful, timely feedback? Do your personalities mesh? All of these things are vital to a successful long-term mentoring relationship. If even this short-term relationship is not working, it is wise to find a better fit. Otherwise, no matter how successful or senior the potential mentor is, it is not worth the frustration.

Choosing a mentor with a proven track record of mentorship is also important. Ask your co-fellows or junior faculty colleagues who they have enjoyed working with and who they would avoid. The reality is that some "mentors" use mentees as personal workhorses. While such a relationship will likely lead to productivity, it may not be a tradeoff that you find worthwhile.

While we recommend that young gastroenterologists identify a single primary mentor, the reality is that multiple supplemental mentors may be required to complement your varied interests. Indeed, mentoring networks – rather than mentoring dyads – are critically important.[1]

A good mentor should help you chart a unique path according to your own interests and aspirations, balancing idealism with pragmatism. The idea is not to take a cookie-cutter approach to building an academic career. A good mentor not only supports you in your successes but, more importantly, believes in you when the chips are down. In other words, an ideal mentor is not a fair-weather friend.

While the guidance provided by one's mentor is critical, it is important for a mentee to take personal re-

sponsibility for their career and not align so closely with their mentor's interests that they miss an opportunity to realize their own career vision. For this reason, choosing a mentor who has complementary – though not identical – interests may work best. Eventually, you will need to establish independence and this is easier if you have forged your own unique path divergent from the mentor's primary area of interest.

Characteristics of a good mentee

While mentoring fellows and young faculty is important to a mentor's career advancement as well, it is largely a selfless task and it is important that a mentor choose mentees who are self-directed and motivated to succeed. Keep in mind that if the relationship is functioning as it should, the mentor invests more time and effort early in the relationship than he or she can expect in return (compared to doing the work independently). So, first and foremost, a good mentee respects the effort of the mentor by completing in a timely manner the tasks necessary to bring a project to fruition. Nothing may irk the mentor more than a nearly completed project that never made it to publication.

The mentee should also be able to place trust in the mentor – trust in confiding personal ambitions and self-doubt, and trust in the mentor's advice.

Nonacademic mentorship

While all gastroenterologists are trained in academic settings, and some choose careers in academia, in reality the majority of gastroenterologists pursue careers in nonacademic private practice. Mentorship in this environment is less well-defined, and the building blocks for career success are different. We recommend that young gastroenterologists interested in nonacademic careers consult more clinical faculty at their training programs, who may have considered private practice opportunities along the way. In the early years of private practice, young gastroenterologists should seek out a senior physician with complementary interests who can serve as a trusted mentor to help navigate the demands of a new clinical environment, understand the intricacies of the practice's business model, maintain work-life balance, and avoid common pitfalls as you build your career.

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Making the relationship work

Mentorship to sponsorship

As the relationship evolves, assuming good rapport, a mentee may find that their mentor morphs into a sponsor. Sponsorship is slightly different from but complementary to mentorship. While a mentor may offer invaluable advice regarding career direction, research endeavors, and navigation of institutional politics, a sponsor advocates for you on a larger scale. A sponsor will endorse you to others and offer you opportunities you may not have had at a certain stage in your career; examples include recommending you for a committee appointment or a leadership position within or outside your institution, or arranging for you to give an invited talk at a national meeting. Having a sponsor is particularly important for women, who are often over-mentored and under-sponsored, impeding career advancement.[2]

Troubleshooting

So, what if your mentoring relationship isn't working? A few tips to right the ship:

1. Identify a primary mentor and make sure there is a mutual understanding of this relationship. If the mentor has not made the relationship and your respective responsibilities explicit, then consider a mentoring contract to promote accountability.[3]

2. Establish expectations early. As a mentee, you need to be able to articulate what you need to succeed. Be proactive in identifying opportunities for yourself.

3. Set concrete short- and long-term goals and establish an agenda for each mentoring meeting, so important issues and concerns can be discussed.

4. Expand your mentoring network. Find mentors to advise you in areas of interest that your primary mentor may not be as experienced in. Be sure to keep your primary mentor in the loop.

5. Don't be afraid to change primary mentors if the relationship truly isn't working. This is your career, so take charge.

Conclusion

A strong mentoring relationship can be extremely rewarding both personally and professionally. In selecting a mentor, young gastroenterologists should take a deliberate approach and be mindful of the characteristics that result in productive mentoring relationships. If chosen wisely, mentors will serve as advocates and friends for years to come and will brighten your career path in ways both large and small. ■

References

1. Castro R, et al. Acad Med 2013;88:488-96.
2. Hewlett SA. Boston, Mass.: Harvard Business Review Press, 2013.
3. Kashiwagi DT, et al. Acad Med 2013;88:1029-37.

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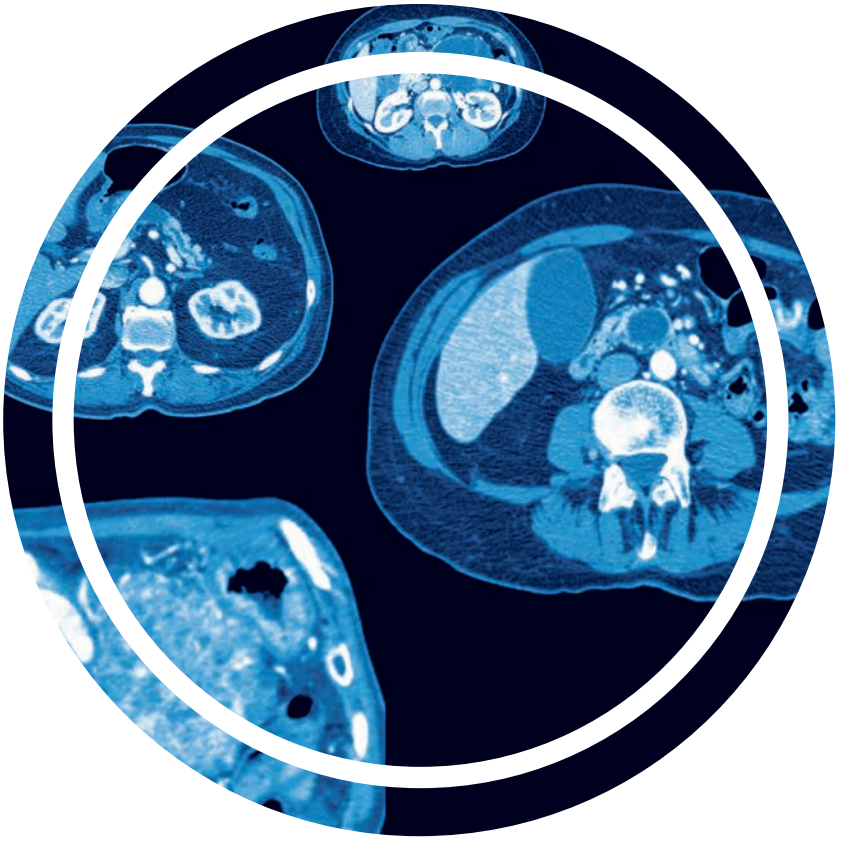


Courtesy Dr. Mukewar and Dr. Chari

Pancreatic Cystic Neoplasms: The Essentials

By Saurabh Mukewar, M.D., and Suresh Chari, M.D.

Dr. Mukewar is an instructor of medicine and Dr. Chari is a professor of medicine, division of gastroenterology and hepatology, Mayo Clinic College of Medicine, Rochester, Minn.

Historical perspective

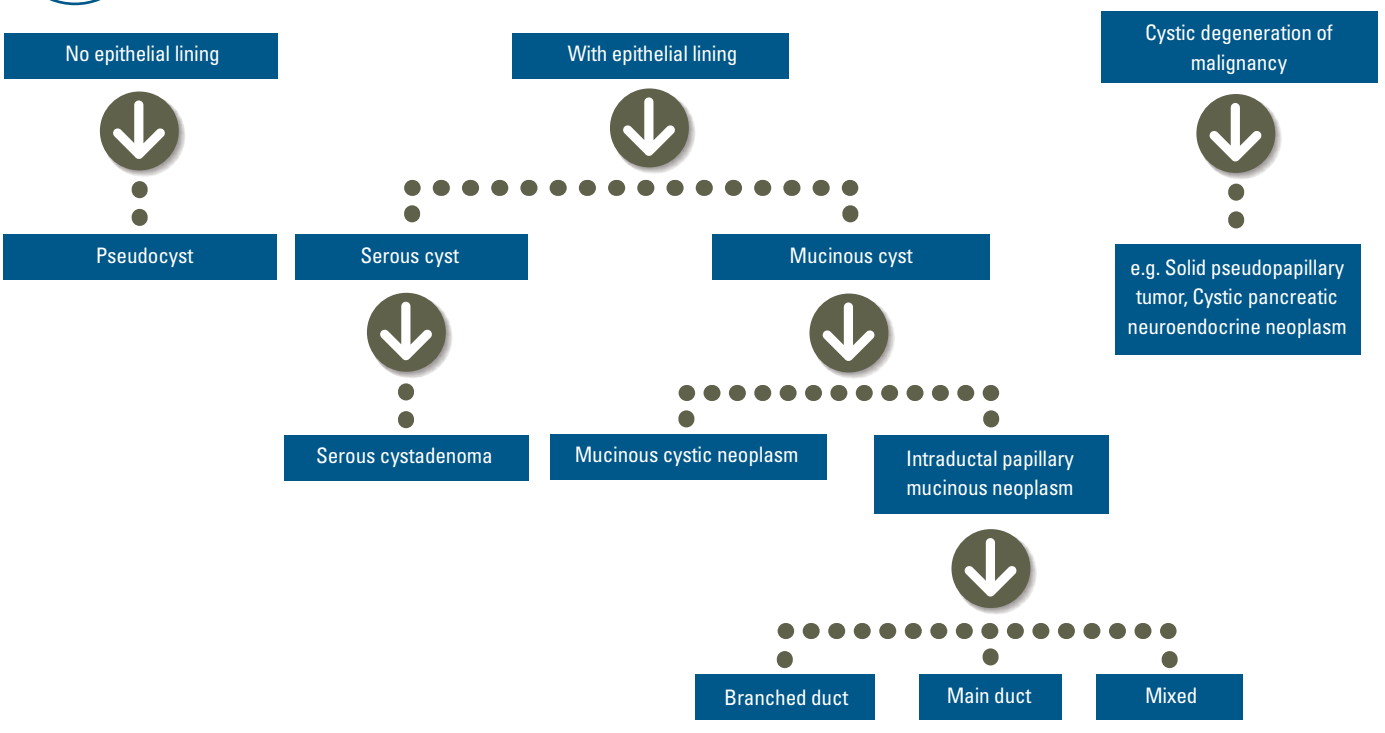
The earliest report of a pancreatic cyst dates back to 1891 from Germany, wherein a cystadenoma of the pancreas was first reported in a woman presenting with an abdominal mass.[1] Prior to the era of cross-sectional imaging, pancreatic cysts were described mostly in surgical case series.[2,3] Most patients presented with abdominal symptoms secondary to an enlarging abdominal mass and underwent surgery, which revealed a cyst arising from the pancreas. For example, a case series from the Mayo Clinic from 1907 to 1958 describes only 298 cases of pancreatic cysts, the majority of which (85%) were pancreatic pseudocysts and a small minority of which were pancreatic cystic neoplasms (PCNs;15%).[2] Thus, before widespread use of cross-sectional imaging, it was believed that pancreatic cysts represented an uncommon entity and were mostly composed of pseudocysts.

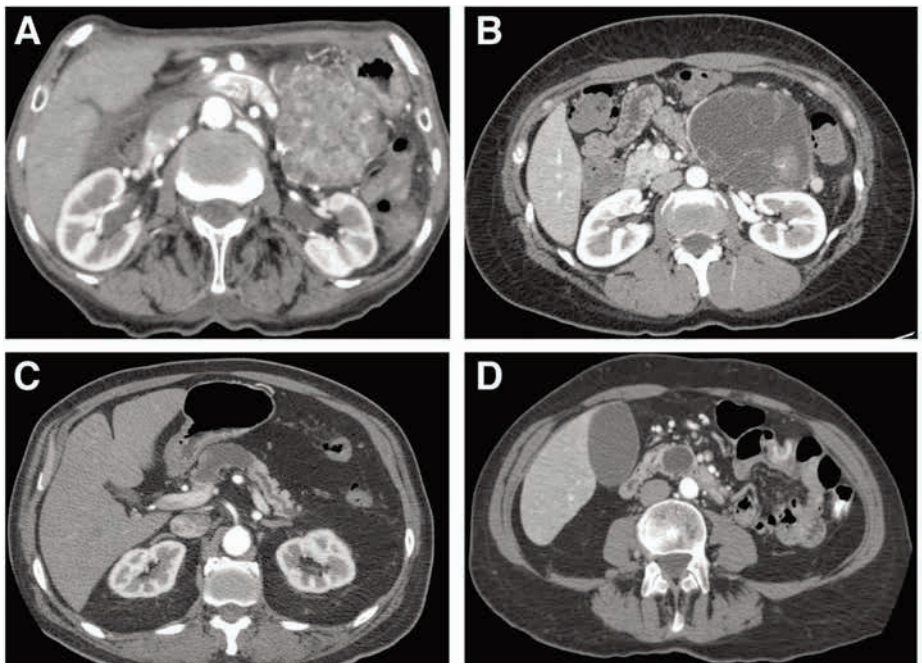
From the 1960s through the 1980s, with the advent and improvement of computerized tomography (CT) scans, pancreatic cysts were increasingly identified on scans performed for unrelated reasons. In a report from 1980, the prevalence of pancreatic cysts was reported as 1.4%.[4] In 1982, intraductal papillary mucinous tumors (IPMN; later referred to as neoplasms) were first described in Japan and identified as visible precursors for some forms of pancreatic adenocarcinoma.[5] Recognition of their premalignant potential provided a unique opportunity and surgeries for IPMN were subsequently performed on a routine basis with the goal of preventing the future development of pancreas cancer.[6] However, over the last decade, it has been recognized that IPMN-like lesions are quite common in older individuals[7] and all IPMNs do not harbor an equal risk of malignancy.[8,9] Risk stratification of cysts has been attempted to better define those with "high-risk" features, which require surgery, and others that can be managed with periodic surveillance.[10,11] There has been a gradual shift from surgical resection of every IPMN to a more selective approach with removal of only "high-risk" IPMNs.[12] In addition, we have also learned that IPMNs are the most common type of cysts undergoing surgical resection. In fact, contrary to historical series where pseudocysts were thought to be the most common lesion, true pseudocysts are considered to be quite uncommon.[13]

Classification of pancreatic cysts

Pancreatic cysts are classified as cysts with epithelial lining (true cysts), cysts without epithelial lining (pseudocysts), and malignancies,

Figure 1 CYSTIC LESIONS FOUND WITHIN THE PANCREAS GLAND CLASSIFIED ACCORDING TO CYST LINING





Courtesy Dr. Mukewar and Dr. Chari

Figure 2. *Cross-sectional images of various types of pancreatic cysts. A: Serous cystic neoplasm: cluster of microcysts. B: Mucinous cystic neoplasm: septated cystic structure in body/tail in females. C: Main duct intraductal papillary mucinous neoplasm: dilated main pancreatic duct. D: Branched duct intraductal papillary mucinous neoplasm: cystic lesion that may show communication with the main pancreatic duct.*

which have undergone cystic degeneration (malignant cysts). It is believed that true cysts are the most common type of pancreatic cyst. These are further classified based on the type of epithelium lining the cysts (**Figure 1**).

Some of these true cysts are believed to be premalignant, as the epithelium can undergo dysplastic changes that can progress to cancer in the future. These premalignant cysts [i.e., PCNs include serous cystic neoplasms (SCNs) as well as mucinous cysts. Mucinous cysts are further classified as mucinous cystic neoplasms (MCNs) and IPMNs [branched duct (BD), main duct (MD), and mixed]. Each of these PCNs has a characteristic appearance on imaging studies (**Figure 2**).

Risk of malignancy

The risk of malignancy in PCNs has been largely derived from the point prevalence of malignancy in resected PCNs. The prevalence of malignancy in PCNs varies with the histologic subtype – it is lowest in SCNs and highest in MD-IPMN/mixed-IPMN. In surgically resected SCNs, malignancy is seen in less than 1% of cases, with only a few cases of malignant transformation having been described in the literature.[14] In surgically resected IPMNs, 25% of BD-IPMNs and 60%-70% of main duct/mixed-IPMNs harbor malignancy.[12] Risk also varies with the morphologic subtypes of IPMN. There are four subtypes of IPMN based on the epithelial cell lining the cyst – pancreatobiliary, intestinal, and oncocytic (associated with main duct) and gastric (associated with branched duct).[15,16] Colloid cancer arising from the intestinal and oncocytic cells has a better prognosis compared with pancreatic ductal adenocarcinoma. On the other hand, tubular cancer arising from pancreatobiliary and gastric cells has poor prognosis, similar to pancreatic ductal adenocarcinoma.[15,16] These estimates are based on a highly select cohort of surgically resected PCNs, which represent only a small proportion, since the majority are managed nonoperatively.

In conservatively managed cysts, emerging data suggest that the risk of malignancy is quite low. In a recent meta-analysis conducted by the AGA, the rate of developing malignancy was 0.24% per year in uncharacterized pancreatic cysts on follow-up imaging.[17] This was higher – 0.72% per year – in patients suspected to have IPMNs. These numbers are largely driven by BD-IPMNs with no concerning features, as the risk may increase considerably with high-risk features such as the presence of a solid component in cysts, dilation of the main pancreatic duct, or larger cyst size (greater than 3 cm). Currently, there are no high-quality data to estimate risk of malignancy in the presence of these high-risk features. BD-IPMNs can also concomitantly develop pancreatic adenocarcinoma away from the IPMN. This has been demonstrated in studies from Japan, where adenocarcinoma separate from the imaged IPMN was noted to develop in 5.4% of patients on follow-up.[18]

There are limited data on conservatively managed SCNs, with a meta-analysis showing a 0% risk of developing malignancy in 276 patients studied with 1,551 years of follow-up.[17] While previous estimates of the malignant potential of BD and MD-IPMN may have been higher due to ascertainment bias from surgical cohorts, prospective and population-based data has been lacking, thus limiting accurate prognostication of the true annualized risk of development of malignancy from these lesions.

Cyst identification

Pancreatic cysts are frequently noted on imaging studies done for unrelated reasons. The first step is to recognize the type of pancreatic cyst, which can be quite challenging at times. History of acute pancreatitis suggests a possible pseudocyst, and pancreatic cysts in the setting of chronic calcifying pancreatitis can also be pseudocysts. However, IPMNs are also frequently encountered in this setting and it can be difficult to distinguish between the two.[19] Certain characteristics can help determine the type of cyst (**Table 1**). SCNs will appear as a cluster with central scar; MCNs in females as a unilocular or multilocular cyst in tail of the pancreas; BD-IPMNs as multiple cysts communicating with the main pancreatic duct; MD-IPMNs as a dilated main pancreatic duct without any evidence of obstruction; mixed-IPMNs with features of both MD-IPMN and BD-IPMN; and solid pseudopapillary neoplasms (SPNs) as having a well-defined enhancing capsule, containing varying degrees of solid component and internal hemorrhage.[20]

However, a large proportion of the cysts encountered in clinical practice may not show classic features on routine CT/magnetic resonance cholangiopancreatography (MRCP), in which case endoscopic ultrasound (EUS) can further improve the diagnostic yield.[21] EUS-guided aspiration of cyst fluid can be tested for amylase, CEA (carcinoembryonic antigen) levels, and consistency to help identify the type of cyst. CEA levels above 194 ng/mL have been considered diagnostic for mucinous cysts and levels below 5 ng/mL are diagnostic for SCNs or pseudocysts.[22] Amylase levels below 250 ng/mL can exclude pseudocysts. If, despite all investigation, cysts remain uncharacterized, they are managed under the assumption that they are BD-IPMNs, as these are the most frequently encountered cysts in surgical series.[23]

Management of pancreatic cystic neoplasms

Management of PCNs has evolved over the last decade with a shift toward conservative management. There is a scarcity of high-quality evidence and hence management of PCNs remains a matter of controversy with guidelines based on low-quality evidence and expert recommendations.[12,17,24] Pancreatic cyst surgery is associated with a 0.5% risk of perioperative mortality[6] and significant morbidity. Complications such as pancreatic fistula, abdominal fluid collection, wound infection, pneumonia, acute renal failure, and gastrointestinal bleeding occur in 30%-50% of cases.[6] Hence, surgery is generally recommended for patients with cyst features that are concerning for an underlying malignancy while the rest are managed conservatively with follow-up imaging.

As SCNs have a very low risk of developing malignancy, surgery is only recommended if the cyst is causing symptoms. On the other hand, surgery is recommended for all surgically fit SPNs and cystic pancreatic neuroendocrine tumors. For IPMNs and MCNs, the 2006 international consensus guidelines in Sendai (which were later revised at Fukuoka in 2012), have provided recommendations for management.[12,24] All surgically fit patients with MD-IPMNs and MCNs should undergo resection. The management of branch duct IPMN is considerably more controversial, as differing recommendations have been issued by the Fukuoka guidelines and the

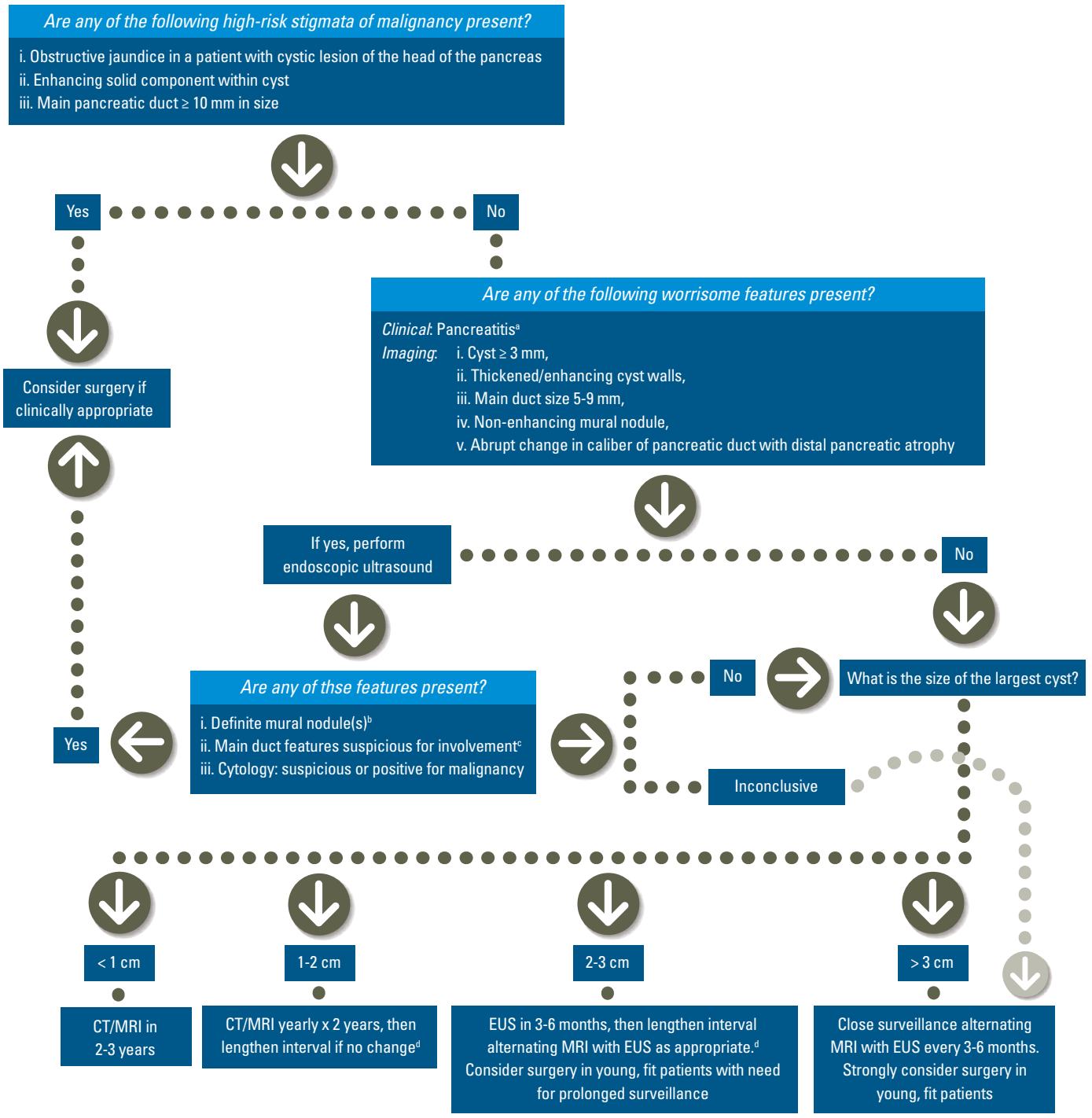
Table 1

CYST TYPES, DEMOGRAPHIC FEATURES, IMAGING FEATURES, AND RISK OF MALIGNANCY

Cyst type	Demographics	Imaging features	Risk of malignancy (surgical series)
Branched duct type - Intraductal papillary mucinous neoplasm	Middle aged to elderly, equal sex distribution	Often multifocal simple appearing cysts, sometimes communication is seen with main pancreatic duct	25%
Main duct/mixed type - Intraductal papillary mucinous neoplasm	Middle aged to elderly, equal sex distribution	Diffusely dilated main pancreatic duct (main duct type) with dilated side branches (mixed type)	50-70%
Mucinous cystic neoplasm	Middle aged women	Large, round/oval, septated cysts in body/tail region not communicating with main pancreatic duct	20%
Serous cystic neoplasm	Elderly women	Dense cluster of cysts with central calcification	<1%
Solid pseudopapillary neoplasm	Young women	Solid and cystic components, may have internal hemorrhage	15%

Figure 3

ALGORITHM FOR THE MANAGEMENT OF SUSPECTED BD-IPMN



a. Pancreatitis may be an indication for surgery for relief of symptoms.
b. Differential diagnosis includes mucin. Mucin can move with changes in patient poistion, may be dislodged on cyst lavage, and does not have Doppler flow. Features of true tumor nodule include lack of mobility, presence of Doppler flow, and FNA of nodule showing tumor tissue.
c. Presence of any one of thickened walls, intraductal mucin, or mural nodules is suggestive of main duct involvement. In their absence main duct involvement is inconclusive.
d. Studies from Japan suggest that on follow-up of subjects with suspended BD-IPMN there is increased incidence of pancreatic ductal adenocarcinoma unrelated to malignant transformation of the BD-IPMN(s) being followed. However, it is unclear if imaging surveillance can detect early ductal adenocarcinoma and, if so, at what interval surveillance imaging should be performed.

AGA. **Figure 3** describes management of BD-IPMNs, per the Fukuoka guidelines. BD-IPMNs with "high-risk stigmata," such as enhancing solid component, main duct diameter greater than 10 mm, or obstructive jaundice secondary to a cystic mass in the head of pancreas, should undergo surgery as these patients have a high likelihood of harboring a malignancy. The rest can be conservatively managed with follow-up imaging studies at various intervals based on the size of the lesion (less than 1 cm, 1-2 cm, greater than 3 cm) as well as delineated "worrisome features." More recent AGA guidelines[17] propose recommendations for management of asymptomatic PCNs, which include suspected BD-IPMNs. These are different from the Fukuoka guidelines in several ways: 1) surgery is recommended only if there are two or more concerning features seen on MRI/MRCP and then confirmed on EUS; 2) surveillance is recommended every 2 years with MRI/MRCP and can be stopped at 5 years if there is no change; 3) after IPMN-surgery, surveillance is not recommended if dysplasia or cancer is not identified. It is important to realize that these guidelines are based on low-quality evidence, with some parts also based on expert opinion, and these guidelines will evolve as more studies describe the natural history of various pancreatic cysts.

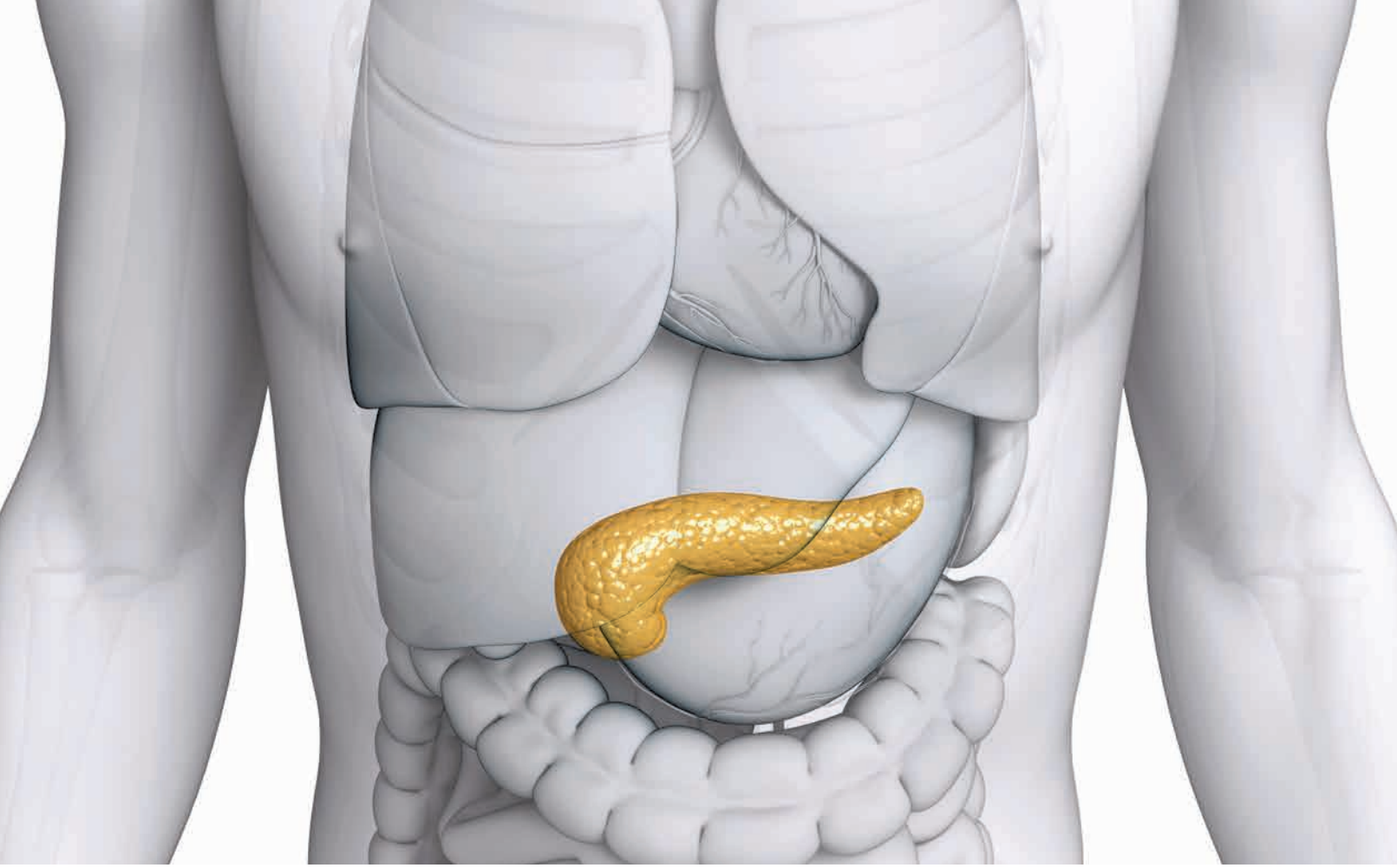
The definitive typing of cysts requires histology, which is unfortunately unable to be obtained until the cysts are resected. Surrogate markers on imaging and cyst fluid CEA help to some extent, but their accuracy is not satisfactory. Attempts have been made to identify molecular markers that can accurately define the malignant potential of these cysts.[25] A multicenter study (PANDA) was conducted in 2009, to investigate the cyst fluid analysis for *KRAS* mutation, DNA volume, and allelic imbalance.[26] Adding *KRAS* mutation analysis to CEA level increased the sensitivity from 64% to 82% while maintaining specificity at 83% for diagnosis of mucinous cysts. Combining *KRAS* mutation with allelic loss had low sensitivity (37%) to detect malignancy but high specificity (96%).[26] In a study by Jones and colleagues, next-generation gene sequencing reclassified 48% of cysts as mucinous, which had CEA levels less than 200 ng/mL.[27] More recently, in a large multicenter study by Springer et al., cyst fluid analysis of various molecular markers combined with clinical markers showed sensitivity and specificity of 90% and 97% for MCN as well as 94% and 84% for IPMN, respectively.[28]

Recent developments in understanding the molecular profile of pancreatic cysts with identification of mutations specific for different cysts may help define cysts more accurately. Mutations in *GNAS, KRAS*, and *RNF43* are for IPMNs; those in *vHL* for SCN; in β-*catenin* for SPN; *KRAS.* and *RNF43* for MCNs.[29,30] Currently, many of these molecular tests are investigational; however, their commercial availability in the near future should allow more specific identification of conservatively managed cysts.

Another area that needs further progress is to differentiate benign from malignant mucinous cysts. In the PANDA study, combining *KRAS* mutation with allelic loss had low sensitivity (37%) to detect malignancy but high specificity (96%).[26] In the study by Springer et al., the authors concluded that use of molecular markers preoperatively would have resulted in avoiding surgery in 91% of patients who turned out to have benign cysts.[28] Further work is needed in this area to enhance risk stratification and identify those patients who would most benefit from undergoing major pancreatic surgery.

From the initial description to our current understanding of pathogenesis and molecular testing for malignancy, great strides have been made in our understanding of PCNs. The pendulum has swung on management from surgical resection for all PCNs to a more selective approach of resection of cysts at high risk of harboring or imminently

All surgically fit patients with MD-IPMNs and MCNs should undergo resection. The management of branch duct IPMN is considerably more controversial, as differing recommendations have been issued by the Fukuoka guidelines and the AGA.



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developing cancer. However, multiple questions remain unanswered. The natural history of BD-IPMNs needs to be characterized with high-quality studies. The optimal method for surveillance of nonresected cysts is unclear. Whether surveillance can be stopped in some cases is not known. Additionally, the risk of developing synchronous or metachronous pancreatic cancer during surveillance needs to be defined by high-quality studies. Whether some MD-IPMNs and MCNs can be managed nonoperatively also needs to be determined. Postsurgery surveillance intervals and methods are also unclear.

Large, multicenter prospectively followed cohort studies are needed to generate data that can inform evidence-based guidelines for management of pancreatic cysts. Additionally, biomarkers that can accurately define both histologic type of a cyst and the presence of high-grade dysplasia/early cancer within a cyst are needed to further risk-stratify patients. If such goals are achieved one can envision potentially considering approaches to chemo-prevention of cancer in premalignant pancreatic cysts. ■

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'Scope' Out the Potential Pitfalls in Your First Employment Agreement

By David J. Schiller, Esq.

Mr. Schiller is a physician contract and tax attorney and has practiced in Norristown, Pa., for the past 30 years. He can be contacted at 610-277-5900 or www.schillerlawassociates.com or David@SchillerLawAssociates.com.

You finally made it to your last year of fellowship and are ready to get a real paying job in July. Besides hearing all of the traditional war stories about practice situations that were not as described, you may face black and white pitfalls in your employment agreement before you even start your job. What provisions should you expect to see in an employment agreement?

Contract term

Most new physician employment agreements have a stated term of 1-3 years. Wait a minute; don't sign a long-term lease or buy a house! Why? Because most agreements have early termination provisions allowing either the employer or employee to terminate the agreement at any time and without cause, often on 60 or 90 days written notice. What does this mean? It means that even though the agreement states that it is for a specific term, you really have a 60 or 90 day contract since the employer does not need "cause" to terminate the agreement.

Noncompetition provisions

This is complicated further because almost every employment agreement has a restrictive covenant, often called a noncompetition provision. Employers usually include it so that no matter why or when your employment terminates, you cannot practice gastroenterology or hepatology within a specified number of miles from each practice location. Often, this includes more than one location and the restrictive covenant applies regardless of who terminates the agreement and whether there is cause to terminate the agreement. So if you start work, work efficiently, treat patients well, yet the practice decides it is better off without you, they can terminate your employment and subject you to noncompetition provisions. If you purchased a home or are stuck in a lease, your employer is precluding your practicing locally, so you may have to commute a distance to new job or relocate and suffer a financial hit. Although you could attempt to negotiate to reduce or eliminate the restrictive covenant, fighting it in court is usually expensive and often a losing proposition.

Malpractice insurance

When you review a proposed employment agreement, make sure that your employer will provide you with malpractice insurance. Upon any termination of your employment, you should negotiate so that the contract provides that your employer pays any tail premium if you have a claims-made policy. With a claims-made policy, an additional premium, called a tail premium or tail endorsement is generally due at the end of the policy, and many employment agreements require the employee to assume this liability.

Define work obligations

The employment agreement should clearly define your regular work week, as well as on-call, weekend, and holiday

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The employment agreement should clearly define your regular work week, as well as on-call, weekend, and holiday coverage responsibilities.

coverage responsibilities. It is common to provide that all physicians equally share such obligations, but often a senior physician will want to reduce or eliminate call responsibilities, giving you a disproportionate burden. The time to discuss these issues and memorialize your agreement in writing is upfront, not after a problem occurs.

In addition to general work obligations being outlined, time off, including vacation, continuing medical education, and maternity/paternity leave, should all be addressed in the employment agreement. Is it competitive with other employers? Is the stated time reasonable and are you paid for your time off? What happens if you are ill or disabled? Are you paid? Will you have disability and life insurances paid by your employer?

During negotiations it is common practice that you and your prospective employer will email or text various questions and responses but rarely will such discussions be specifically reflected in the final employment agreement. However, in the "boiler plate" provisions at the end of most employment agreements it is common to find a provision titled "Entire Agreement." This provision essentially states "whatever is in this contract counts and anything we may have discussed in the past is irrelevant and not part of the agreement." The bottom line is that all important terms must make it into the final written contract.

Although most initial employment agreements only address the first few years, if your employer is a private group there may be the opportunity for you to become a co-owner in the practice. Most long-term employees are interested in progressing in the practice, sharing control, and increasing compensation. Even an initial agreement can address how co-ownership works, whether there will be a buy-in, and the long-term economics of the arrangement; all of these considerations will impact your decision about taking the job. It is also common that private gastroenterologists invest in nonhospital-based endoscopy centers, and if the practice physicians own one, you will want to make sure that your future co-ownership is in the cards. Since these centers often yield substantial revenue to the owners, it is important to understand the details of endoscopy center ownership and your future involvement or co-ownership.

Since most practice arrangements are determined by contract and not by law, if a term or provision is important to you, it must be memorialized as part of the contract for you to guarantee mutual understanding of the parties. Confer with a contract attorney who is familiar with physician employment agreements since their primary function is to counsel you on industry norms so that your expectations are aligned with reality. You may also wish to look at *Medical Economics: Modern Medicine* magazine online since many informative articles have been published that address physician contract issues. ■

Postfellowship Pathways: Advanced IBD Fellowship

By Sasha Taleban, M.D.

Dr. Taleban is currently assistant professor at the University of Arizona College of Medicine, and director of the Inflammatory Bowel Disease Program. He completed his IBD fellowship at Cedars-Sinai Medical Center in Los Angeles, Calif.

What are the considerations for gastroenterology fellows interested in advanced inflammatory bowel disease (IBD) fellowships?

Ongoing clinical and scientific advancements in IBD have increased the complexity associated with the management of Crohn's disease (CD) and ulcerative colitis (UC). Advanced IBD fellowships (AIFs) allow for focused and dedicated clinical and scholarly pursuits that can better prepare applicant physicians to care for complex IBD patients, develop research interests, and establish mentors. For physicians who want to pursue an AIF, there are important considerations. For example, due to the chronic nature of IBD, and unlike other referable GI disease processes, IBD providers often form long-standing relationships with patients through clinic appointments and frequent colonoscopic evaluation. From a financial standpoint, pursuing an IBD fellowship delays earning power for another year. Therefore, GI fellows should ensure that an AIF fits into their career goals. Finally, a team-based approach is necessary in IBD as management involves a multidisciplinary approach to care. The gastroenterologist is an important cog in the wheel, but one that is much less effective without the other moving parts.

What are the benefits of completing an AIF?

Beyond the benefits of clinical competency, scholarship, and establishing relationships within the field, an AIF provides credibility when seeking jobs. It validates the "niche" that many programs and practices pursue when looking to hire fresh out-of-fellowship graduates. Developing a particular GI interest during GI fellowship while balancing requirements and responsibilities can be challenging. The extra year of training narrows the scope of clinical focus and forces fellows to learn the complexities and nuances of caring for CD and UC. Additionally, the AIF exposes trainees to multiple IBD faculty, some of whom remain mentors. For fellows interested in possibly starting an IBD program at an academic institution, the extra year provides adequate exposure to the operation and structure of an established program.

Though it can provide a foundation for some, an AIF may not be ideal for everyone. First, as much as it may provide a basis for clinical care and scholarship, it presents the fellow with only a fraction of the scenarios he or she will encounter in practice. Second, many trainees may find that an AIF is not necessary for the practice they are joining. For

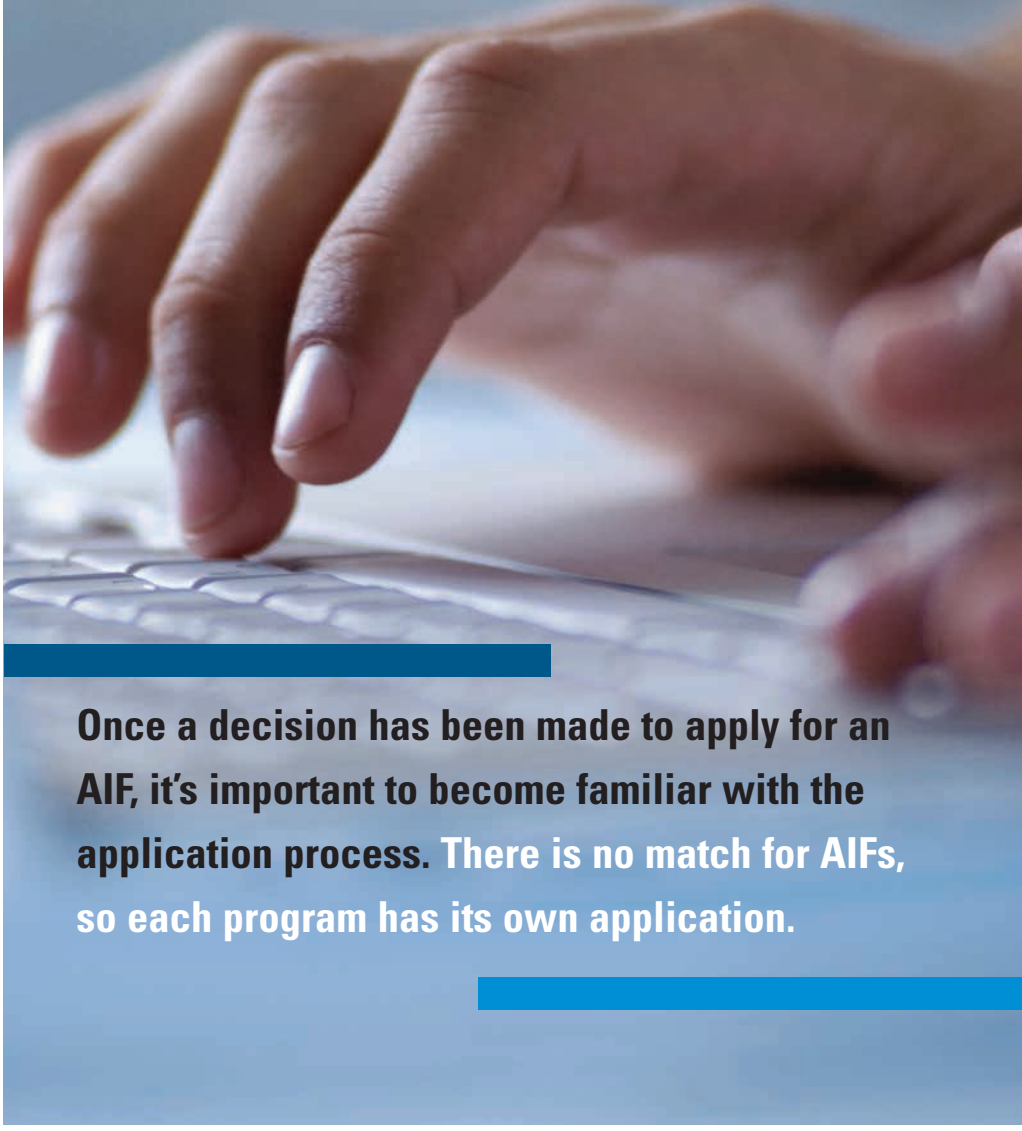
trainees seeking to go into private practice, it may be enough to hone their skills as an "IBDologist" during the third year of GI fellowship. This background, in addition to an overall continued interest in IBD, will provide adequate competency to care for most patients in private practice.

What can GI fellows do to prepare for an IBD fellowship?

Once a GI fellow develops an interest in IBD, it is important to communicate this to the program director and mentors. Often, they can direct the fellow to appropriate faculty, opportunities, and resources. Pursuing research interests within IBD is also helpful as it propels one to investigate the literature in the field and develop a deeper understanding of the subject matter. Involvement in research also exposes fellows to IBD faculty who may serve as mentors going forward.

National GI conferences – including Digestive Disease Week®, the American College of Gastroenterology annual meeting, and the annual Advances in Inflammatory Bowel Disease meeting – are an opportunity to meet thought leaders in IBD and attend lectures. Far less intimidating opportunities may be local and regional conferences, as they provide a more intimate setting to meet IBD faculty. GI fellows can also apply for a 4-week IBD Visiting Fellow Program (sponsored by the Crohn's & Colitis Foundation of America) which matches trainees from institutions with limited IBD exposure to one of several high-volume programs.[1] Additionally, some IBD faculty around the country may be willing to take on trainees for several weeks for an informal rotation.

At the institutional level, during GI fellowship, fellows should determine if they can follow a provider that does a significant amount of IBD as part of a clinical rotation. Depending on the structure of the fellowship, the fellow also may be able to request more IBD patients be scheduled in his or her general GI clinic.



Once a decision has been made to apply for an AIF, it's important to become familiar with the application process. There is no match for AIFs, so each program has its own application.

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What are the fellowship options for someone interested in IBD?

As of 2014, there were 20 Advanced IBD fellowships in North America, 19 of them located in the United States.[2] Most offer a single position over 1 year, although a few have multiple positions that can extend to 2 years. Many programs have their own websites with varying degrees of information. Often, the best resources are the current advanced fellows at the program.

The Accreditation Council for Graduate Medical Education (ACGME) does not accredit these advanced fellowship programs and they fall under the jurisdiction of each institution's Graduate Medical Education office. Therefore, the curriculum at each site differs, so it is important to understand the expectations and responsibilities of each program. For example, there are differences in the number of hospitals covered, amount of inpatient IBD responsibility, breadth of endoscopy experience, research time, didactic responsibility, and frequency of call. A large majority of clinical time is often spent seeing patients in the outpatient setting. There is no American Board of Internal Medicine board certification for IBD.

What does the AIF application process entail?

Once a decision has been made to apply for an AIF, it's important to become familiar with the application process. There is no match for AIFs, so each program has its own

application. Most programs do not have a set deadline, although some require applications 5 to 15 months prior to starting. Several institutions have applications or requirements on their websites and international applicants are accepted everywhere except California. Previous completion of a GI fellowship is required or preferred at almost all institutions. At least one interview is expected during the application process.

What should a fellow expect during an AIF?

Most of IBD practice is performed in an outpatient setting. Fellows should expect to have multiple half-day clinics per week working with various IBD providers. Over time, the advanced IBD fellow is expected to be able to take focused IBD histories, determine appropriate diagnostic tests, and become comfortable with different therapeutic options.

The AIF year also provides an opportunity to refine endoscopic skills and assess IBD endoscopic disease activity. IBD patients rarely require urgent or emergent endoscopy but the timing and choice of procedures are important nonetheless. Generally, during my application process, fellows were not expected to take call. Some programs may require that fellows also perform endoscopies of other non-IBD patients.

Though management of inpatient IBD patients may make up a small percentage of the overall number of patients, it can occupy much of a provider's time. Learning to care for severe and refractory inpatient IBD patients is an important part of fellowship. Some programs will have dedicated inpatient IBD teams while others may require that the fellow cover the inpatient GI service that may include IBD patients.

There is also a research component to an AIF. Fellows typically have several half-days off per week to focus on different projects. There may also be an expectation to give GI grand rounds and other presentations during the course of the year. Different programs also may provide various coursework or seminars during the year.

What was the most challenging part of an AIF?

An AIF has a less formal curriculum structure than residency or GI fellowship. During AIF, I had dedicated outpatient clinic half-days with some inpatient and endoscopy responsibilities. Accustomed to a more regimented curriculum in previious training programs, the lack of structure was challenging as there was ample time without clinical responsibility. Initially, this took some adjustment, but over time it allowed me to mold the fellowship into an experience that was consistent with my goals. I worked with other IBD providers, dedicated more time to the inpatient IBD service, volunteered to perform more procedures, and audited a graduate-level course to aid in my research. These endeavors would not have been possible without the flexibility in the schedule.

What's a career in IBD like?

Generally, in clinical practice, AIF graduates can go one of several routes: private practice, Veterans Affairs, or other academic institutions. Many AIF graduates also see general GI patients in practice. The percentage of IBD patients seen often is often based on provider preferences and practice or institutional needs.

The diagnosis and management of complex IBD requires a team of providers that, in addition to a gastroenterologist, includes a colorectal surgeon with IBD experience, GI pathologist, radiologists trained in reading small bowel imaging, nutritionists, and support staff. At an academic center, nurse practitioners, social workers, study coordinators, and research assistants may also be part of the equation. Many institutions without established IBD providers may not have ready access to these resources. In private practice, it may take more effort to meet other providers as they may be in several locations. When starting my current academic position, an IBD program was not yet in place. I attempted to meet with all the important players involved in the care of our IBD patients at our institution. Now we routinely meet for IBD patient case conferences. ■

Though management of inpatient IBD patients may make up a small percentage of the overall number of patients, it can occupy much of a provider's time.

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Snapshots From the AGA Journals

Short Colonoscopy Procedures Tied to Higher CRC Rates

October Gastroenterology (doi: 10.1053/j.gastro.2015.06.001)

Key clinical point: Colonoscope withdrawal times less than 6 minutes are associated with significantly higher rates of interval colorectal cancer.

Major finding: Rates of interval CRC were 2.3 times higher when physicians' average withdrawal times were less than 6 minutes vs. greater than 6 minutes (*P* less than .001).

Data source: Retrospective study of 76,810 colonoscopies performed by 51 gastroenterologists.

Disclosures: A Veterans Affairs Career Development program and the Center for Chronic Disease Outcomes Research funded the study. The authors reported having no conflicts of interest.

Commentary

Dr. Sameer D. Saini is assistant professor of internal medicine at the University of Michigan Health System, Ann Arbor. He has no conflicts of interest.

In this well-planned study by Dr. Shaukat and her colleagues, the authors retrospectively examined the association between an endoscopist's mean withdrawal time, adenoma detection rate (ADR), and interval cancer rate by using data from a large community gastroenterology practice and a state cancer registry. Prior studies have examined the association between mean withdrawal time and ADR, and ADR and interval cancer, but no study has examined the association between withdrawal time (a process measure of colonoscopy quality) and interval cancer (an outcome measure of colonoscopy quality). In this study, the authors found a statistically significant association between mean withdrawal time and ADR, and mean withdrawal time and interval cancer. Specifically, for mean withdrawal times less than 8 minutes, lower withdrawal times were associated with higher rates of interval cancer. Compared to physicians with mean withdrawal times greater than 6 minutes, those with withdrawal times less than 6 minutes were 2.3 times more likely to have a patient develop an interval cancer.

The authors did not find a statistically significant association between ADR and interval cancers, which they attributed to confounding related to the increased risk of cancer in populations with higher adenoma prevalence and the increased likelihood of early cancer detection related to more frequent surveillance examinations. These data provide clear evidence of a link between a modifiable physician characteristic (mean withdrawal time), a readily measurable intermediate outcome measure (ADR), and an important clinical outcome (interval cancer). Such data should prove useful to those who seek not only to measure, but also to improve, the quality of colonoscopy. ■

No Link Found Between IBS and Serologic Markers for Celiac Disease

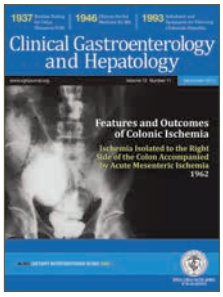
November Clinical Gastroenterology and Hepatology (doi: 10.1016/j.cgh.2015.05.014)

Key clinical point: Irritable bowel syndrome did not increase the likelihood of seropositivity for celiac disease.

Major finding: Patients with IBS were no more likely than others to have serologic markers for celiac disease (odds ratio, 0.2; 95% confidence interval, 0.03-1.5).

Data source: An analysis of bowel symptom surveys and serum samples from 3,202 residents of one county.

Disclosures: The National Institutes of Health funded part of the work. Coauthor Dr. Nicholas Talley reported having colicensed the questionnaire used in the study. The remaining authors disclosed no conflicts.



Commentary

Dr. Alexander C. Ford is associate professor and honorary consultant gastroenterologist at Leeds Gastroenterology Institute, St. James's University Hospital, and Leeds (England) Institute of Biomedical and Clinical Sciences, University of Leeds. He has no relevant financial conflicts of interest.

In the well-designed and rigorous study by Choung et al., the authors conducted a community-based, cross-sectional survey among residents of Olmsted County, Minn., collecting data on symptoms compatible with functional GI disorders, including irritable bowel syndrome; the authors linked these data to prevalence surveys testing for undiagnosed celiac disease using serologic tests conducted among more than 47,000 individuals within the same region.

Patients with celiac disease may present with GI symptoms such as abdominal pain, bloating, and diarrhea, leading to confusion with IBS and diagnostic delay. Current guidelines, therefore, recommend screening patients consulting with IBS-type symptoms routinely for celiac disease. Despite this, in the study only 3% of individuals with positive celiac serology met the criteria for IBS, compared with 14% of those testing negative. Also of note is that subjects with positive serology were no more likely to report other GI symptoms felt to be typical presenting features of celiac disease, including abdominal pain, diarrhea, bloating, or abdominal distension. This suggests the yield of opportunistic screening of people reporting GI symptoms in the U.S. community is low.

However, current guidelines do not recommend screening people with IBS for celiac disease in the general population, and based their recommendations on studies conducted among patients consulting with GI symptoms. As a result, although the authors concluded, justifiably, that testing in the community is unlikely to have a significantly increased yield over population-based screening, it should not lead to a change in recommendations for practice in either primary or secondary care in other countries.

How to Succeed in Academic Medicine by Really Trying

By Neil Osterweil // Frontline Medical News // FROM DDW 2015

WASHINGTON – If life were like a Broadway musical, you could start your career scrubbing bedpans in Act 1 and end up as Dean of the Medical School before the final curtain.

If only.

In academic medicine, understanding what your goals are, knowing the career tracks, and indentifying suitable mentors count for a lot more than a great pair of pipes or fancy footwork.

And while the hours can be long, the work demanding, and the politics infuriating, understudies (i.e., junior faculty) who know their lines and manage not to bump into the furniture can, with a little perseverance, enjoy career advancement and financial rewards, and with a modicum of luck may one day take center stage, according to Dr. Nicholas O. Davidson, professor and chief of gastroenterology and director of the digestive disease research core center at the Washington University School of Medicine in St. Louis.

"Know who you are and align your strengths and weaknesses with the career you seek. Review and under-

stand institutional tracks and expectations and do it before you start. Get a career mentor, and it's really important that you become a mentor to others. You need to be seen by the institution as someone who's adding value to the program top to bottom," he said at the annual Digestive Disease Week® 2015.

Oh, and being a temperamental prima donna is more likely to get you boos and brickbats than bravos and bouquets. Or as Dr. Davidson put it, "being a good citizen also counts."

Five (count 'em, five) guiding principles

Dr. Davidson said that there are five overarching principles to achieving life in the academic medical spotlight:

- Know the tracks (investigator, clinician, researcher, etc.) and their requirements
- Identify your mentor or mentors
- Understand what your boss (division chief) wants
- Align your work with your career goals
- Keep a written plan and review and adjust as necessary

Whatever you do, throughout your career, document, document, document.

Cast of characters

Although it varies considerably from one institution to the next, there are essentially four major career tracks, Dr. Davidson said:

- Investigator: physician/scientists who spend about three-fourths of their time doing investigator-initiated research, and the remaining fourth in the clinic and/or teaching
- Clinical scholar/educator: clinical faculty who balance patient care with research, teaching, or administration
- Clinician: faculty with no or few academic responsibilities beyond patient care
- Researchers: PhDs or nonclinically active faculty who spend nearly all of their time in the lab.

Your CV should also reflect EVERYTHING you do. All your clinical activities, teaching, grand rounds, etc.

For those who want to be clinical scholars or clinicians, it's important to establish both a clinical practice niche (e.g., women's health, pediatrics, inflammatory bowel disease, nutrition) and a scholarly clinical research interest.

"You have to have a scholarly research interest, and it helps if that matches your clinical interests," Dr. Davidson said. "The goal here is to establish a pattern of continued progressive accomplishment, with teaching, clinical care, scholarly clinical research, and administration. And I think it's important to recognize that within your institution, not all of these are going to be weighted equally."

Tweaking your bio

Especially in the first 5 years of your career, it's important to publish – preferably original, peer-reviewed research rather than case reports or reviews, and try to be the first author, if possible.

Your CV should also reflect EVERYTHING you do (emphasis Dr. Davidson's). All your clinical activities, teaching, grand rounds, etc. Other CV nuggets for clinicians and clinical scholars include: avoid time sucks such as institutional committees (but do join local and national committees for medical organizations), get out into the community to get recognized, and record everything you do in the way of teaching, whether it's didactic lectures to raw young medical students, clinical rounds, student lab rotations, CME, or curriculum committees.

It's also important to show on your resume a history of service, such as interviewing intern and residents applicants, subspecialty care, clinical outreach, clinical committees, and clinical leadership through new clinical program development.

Want to be the lead? Finding a mentor/coach is important

Finally, Dr. Davidson emphasized the importance of identifying and working closely with a role model/mentor, likening the ideal relationship between mentee and mentor to that of Luke Skywalker and Yoda, the syntax-destroying, pint-sized green Jedi Master from *Star Wars.*

Faculty members with mentors enjoy more promotions, better compensation, greater career advancement and satisfaction, and greater institutional and organizational commitment to them, he said.

"As you enter your faculty lives, it's really important to distinguish a mentor from a collaborator," Dr. Davidson said.

Mentors focus on you and your career, have a self-selecting and reinforcing relationship of indefinite duration with you, have no outside agendas, and get satisfaction seeing you do your job well.

Collaborators, in contrast, focus on the project, define the relationship by objectives and link the duration of the relationship to the life of the project at hand, and have a specific agenda with performance and outcomes as their personal return.

Ultimately, succeeding in an academic medical career can be boiled down to this bit of Jedi wisdom, from uber-mentor Yoda: "Try not. Do, or do not. There is no try." ■

The Answer

From ***What's Your Diagnosis?*** on page 4

Trichrome (Figure A) and reticulin (Figure B) stains of the liver biopsy revealed centrilobular hepatocyte dropout, fibrosis, and narrowing of the central veins by a combination of fibrous tissue and reticulin fibers. These features were diagnostic of veno-occlusive disease (VOD, also known as sinusoidal obstructive syndrome). The treatment team considered compassionate use of defibrotide, but it was not given because of the remoteness of the initial insult and improving liver function by then. The patient subsequently enrolled in hospice owing to her other comorbidities and died.

Hepatic VOD occurs most commonly in patients undergoing hematopoietic stem cell transplant (HSCT).

As with this patient, refractory thrombocytopenia and coagulopathy in the setting of concomitant liver failure and recent exposure to chemotherapy usually precludes liver biopsy; thus, VOD is often diagnosed clinically. The modified Seattle diagnostic criteria defines VOD as the otherwise unexplained occurrence of two or more of the following within 20 days of HSCT: serum total bilirubin greater than 2 mg/dL, hepatomegaly with right upper quadrant pain, and sudden weight gain due to fluid accumulation (greater than 2% of baseline body weight).[1]

VOD is thought to begin with injury to the hepatic venous endothelium and induction of a procoagulant state. Treatments for VOD, such as defibrotide, tPA, and heparin, attempt to reverse this localized hypercoagulability. In phase I/II trials, defibrotide, which stimulates fibrinolysis by increasing endogenous tPA production and decreasing PA-I activity, showed more than 100 day postHSCT survival rates of 46% with the added advantage of minimal systemic anticoagulant effects.[2]

Less commonly, VOD occurs after exposure to chemotherapeutic agents in nontransplant settings, ingestion of alkaloid toxins, and high-dose abdominal radiation therapy. Additional risk factors include exposure to multiple chemotherapeutic agents, particularly busulfan and cyclophosphamide, preexisting liver disease, decreased carbon monoxide diffusing capacity, advanced age, and female gender. Bairey et al[3] reported the case of a 49-year-old woman with newly diagnosed acute monoblastic leukemia who developed severe VOD after induction chemotherapy with idarubicin, cytarabine, and etoposide, and improved with defibrotide therapy. These cases illustrate VOD as an important etiology, albeit uncommon, of hepatic dysfunction in a non-HSCT patient and should be considered particularly in individuals with known risk factors. A liver biopsy is useful to diagnose VOD in cases that are not easily identified based on clinical features alone. ■

The authors acknowledge the contributions of John Hart, M.D., in the Department of Pathology at the University of Chicago Medicine. A.E.M. and S.S. contributed equally to this manuscript.

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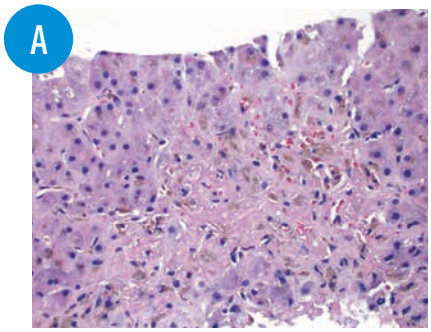

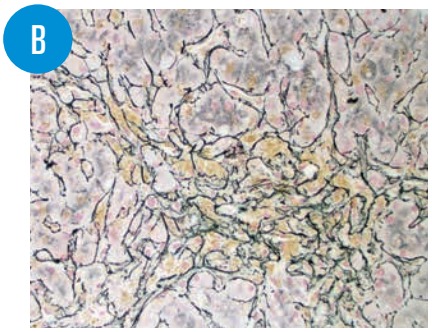

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Use is contraindicated in the following conditions: gastrointestinal (GI) obstruction, bowel perforation, toxic colitis and toxic megacolon, gastric retention, ileus, known allergies to components of the kit. Use caution when prescribing for patients with a history of seizures, arrhythmias, impaired gag reflex, regurgitation or aspiration, severe active ulcerative colitis, impaired renal function or patients taking medications that may affect renal function or electrolytes. Use can cause temporary elevations in uric acid. Uric acid fluctuations in patients with gout may precipitate an acute flare. Administration of osmotic laxative products may produce mucosal aphthous ulcerations, and there have been reports of more serious cases of ischemic colitis requiring hospitalization. Patients with impaired water handling who experience severe vomiting should be closely monitored including measurement of electrolytes. Advise all patients to hydrate adequately before, during, and after use. Each bottle must be diluted with water to a final volume of 16 ounces and ingestion of additional water as recommended is important to patient tolerance.

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