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The Hospitalist

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p12 Dr. Annie Massart and fellow hospitalists offer pros, cons, and tips for bedside rounding

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IN THE NEXT ISSUE...
Hospitalist/military vet, PHM recaps, and EHR

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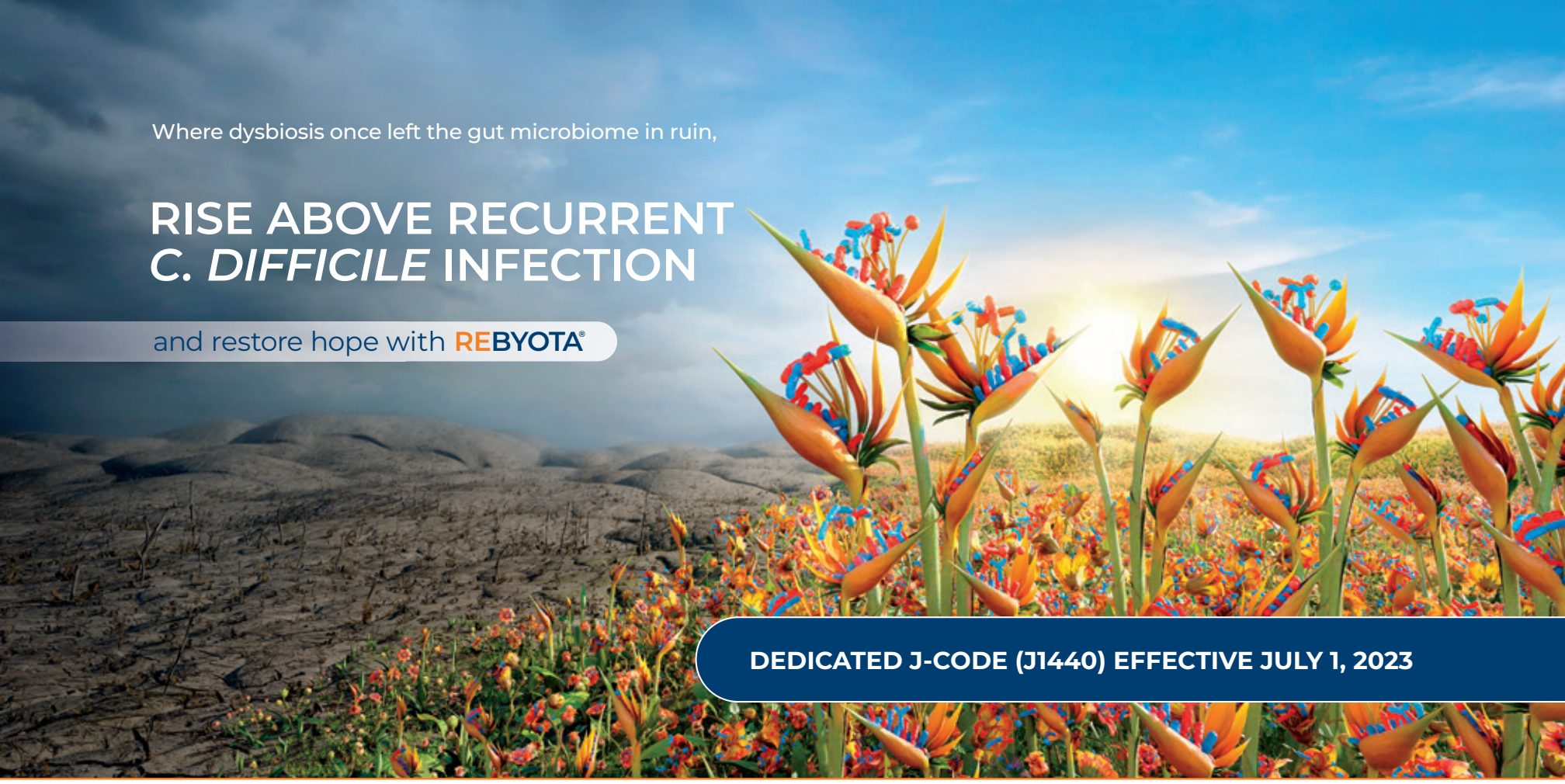

The first and only single-dose microbiota-based live biotherapeutic approved to prevent recurrence of *C. difficile* infection starting at first recurrence.[1,2,a]

[a]In the pivotal phase 3 trial, 32.8% of patients were treated at first recurrence of CDI following antibiotic treatment of CDI.[1]

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INDICATION

REBYOTA (fecal microbiota, live - jslm) is indicated for the prevention of recurrence of *Clostridioides difficile* infection (CDI) in individuals 18 years of age and older, following antibiotic treatment for recurrent CDI.

Limitation of Use

REBYOTA is not indicated for treatment of CDI.

IMPORTANT SAFETY INFORMATION

Contraindications

Do not administer REBYOTA to individuals with a history of a severe allergic reaction (eg, anaphylaxis) to any of the known product components.

Warnings and Precautions

Transmissible infectious agents

Because REBYOTA is manufactured from human fecal matter, it may carry a risk of transmitting infectious agents. Any infection suspected by a physician possibly to have been transmitted by this product should be reported by the physician or other healthcare provider to Ferring Pharmaceuticals Inc.

Management of acute allergic reactions

Appropriate medical treatment must be immediately available in the event an acute anaphylactic reaction occurs following administration of REBYOTA.

Potential presence of food allergens

REBYOTA is manufactured from human fecal material and may contain food allergens. The potential for REBYOTA to cause adverse reactions due to food allergens is unknown.

Adverse Reactions

The most commonly reported (≥3%) adverse reactions occurring in adults following a single dose of REBYOTA were abdominal pain (8.9%), diarrhea (7.2%), abdominal distention (3.9%), flatulence (3.3%), and nausea (3.3%).

Use in Specific Populations

Pediatric Use

Safety and efficacy of REBYOTA in patients below 18 years of age have not been established.

Geriatric Use

Of the 978 adults who received REBYOTA, 48.8% were 65 years of age and over (n=477), and 25.7% were 75 years of age and over (n=251). Data from clinical studies of REBYOTA are not sufficient to determine if adults 65 years of age and older respond differently than younger adults.

You are encouraged to report negative side effects of prescription drugs to FDA. Visit www.FDA.gov/medwatch, or call 1-800-332-1088.

Please see Brief Summary on next page and full Prescribing Information at www.REBYOTAHCP.com.

References

1. REBYOTA. Prescribing Information. Parsippany, NJ: Ferring Pharmaceuticals; 2022.
2. US Food and Drug Administration. FDA Approves First Fecal Microbiota Product. https://www.fda.gov/news-events/press-announcements/fda-approves-first-fecal-microbiota-product. Accessed December 1, 2022.

FERRING PHARMACEUTICALS
Microbiome Therapeutics Development

REBYOTA® (fecal microbiota, live-jslm) suspension, for rectal use

RESTORE HOPE

REBYOTA®
(fecal microbiota, live-jslm) suspension, for rectal use

REBYOTA® (fecal microbiota, live - jslm) suspension, for rectal use

Brief Summary Please consult package insert for full Prescribing Information

INDICATIONS
REBYOTA is indicated for the prevention of recurrence of *Clostridioides difficile* infection (CDI) in individuals 18 years of age and older following antibiotic treatment for recurrent CDI.
Limitation of Use: REBYOTA is not indicated for treatment of CDI.

CONTRAINDICATIONS
Do not administer REBYOTA to individuals with a history of a severe allergic reaction (e.g. anaphylaxis) to any of the known product components.

Each 150mL dose of REBYOTA contains between $1x10^8$ and $5x10^{10}$ colony forming units (CFU) per mL of fecal microbes including $>1x10^5$ CFU/mL of *Bacteroides*, and contains not greater than 5.97 grams of PEG3350 in saline.

WARNINGS AND PRECAUTIONS
Transmissible infectious agents: Because REBYOTA is manufactured from human fecal matter it may carry a risk of transmitting infectious agents. Any infection suspected by a physician possibly to have been transmitted by this product should be reported by the physician or other healthcare provider to Ferring Pharmaceuticals Inc.

Management of acute allergic reactions: Appropriate medical treatment must be immediately available in the event an acute anaphylactic reaction occurs following administration of REBYOTA.

Potential presence of food allergens: REBYOTA is manufactured from human fecal matter and may contain food allergens. The potential for REBYOTA to cause adverse reactions due to food allergens is unknown.

ADVERSE REACTIONS
The most commonly reported (≥ 3%) adverse reactions occurring in adults following a single dose of REBYOTA were abdominal pain, (8.9%), diarrhea (7.2%), abdominal distention (3.9%), flatulence (3.3%), and nausea (3.3%).

Clinical Trials Experience: The safety of REBYOTA was evaluated in 2 randomized, double-blind clinical studies (Study 1 and Study 2) and 3 open-label clinical studies conducted in the United States and Canada. A total of 978 adults 18 years of age and older with a history of 1 or more recurrences of *Clostridioides difficile* (CDI) infection and whose symptoms were controlled 24 – 72 hours post-antibiotic treatment were enrolled and received 1 or more doses of REBYOTA; 595 of whom received a single dose of REBYOTA.

Adverse Reactions: Across the 5 clinical studies, participants recorded solicited adverse events in a diary for the first 7 days after each dose of REBYOTA or placebo. Participants were monitored for all other adverse events by queries during scheduled visits, with duration of follow-up ranging from 6 to 24 months after the last dose. In an analysis of solicited and unsolicited adverse events reported in Study 1, the most common adverse reactions (defined as adverse events assessed as definitely, possibly, or probably related to Investigational Product by the investigator) reported by ≥3% of REBYOTA recipients, and at a rate greater than that reported by placebo recipients, were abdominal pain, (8.9%), diarrhea (7.2%), abdominal distention (3.9%), flatulence (3.3%), and nausea (3.3%).Most adverse reactions occurred during the first 2 weeks after treatment. After this, the proportion of patients with adverse reactions declined in subsequent 2-week intervals. Beyond 2 weeks after treatment only a few single adverse reactions were reported. Most adverse drug reactions were mild to moderate in severity. No life-threatening adverse reaction was reported.

Serious Adverse Reactions - In a pooled analysis of the 5 clinical studies, 10.1% (60/595) of REBYOTA recipients (1 dose only) and 7.2% (6/83) of placebo recipients reported a serious adverse event within 6 months post last dose of investigational product. None of these events were considered related to the investigational product.

USE IN SPECIFIC POPULATIONS
Pregnancy: REBYOTA is not absorbed systemically following rectal administration, and maternal use is not expected to result in fetal exposure to the drug.

Lactation: REBYOTA is not absorbed systemically by the mother following rectal administration, and breastfeeding is not expected to result in exposure of the child to REBYOTA.

Pediatric Use: Safety and effectiveness of REBYOTA in individuals younger than 18 years of age have not been established.

Geriatric Use: Of the 978 adults who received REBYOTA, 48.8% were 65 years of age and over (n=477), and 25.7% were 75 years of age and over (n=251). Data from clinical studies of REBYOTA are not sufficient to determine if adults 65 years of age and older respond differently than younger adults

For more information, visit www.REBYOTAHCP.com

You are encouraged to report negative side effects of prescription drugs to FDA. Visit www.FDA.gov/medwatch, or call 1-800-332-1088.

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This brief summary is based on full Rebyota Prescribing Information which can be found at www.RebyotaHCP.com

US-REB-2200277-V2

HF and Physician Underbilling—Two Common Conditions

By Arunab Mehta, MD, MEd

Coding Corner, a new section that will appear periodically in *The Hospitalist*, features common coding and/or billing issues hospitalists regularly face. If you have suggestions for upcoming coding issues you'd like addressed, email us at lcasinger@wiley.com.

Case

A 64-year-old woman with a history of heart failure with reduced ejection fraction was admitted to the hospital with orthopnea and dyspnea on exertion for one week. You admitted her to the hospital for intravenous (IV) diuresis and you see her now on day three of her admission. She is diuresing adequately on IV Lasix 40 mg twice a day, but after examination, you feel like she needs another one to two days of IV diuresis. You order another basic metabolic panel to monitor her serum creatinine. You review her basic metabolic panel from the morning labs, speak to the patient's daughter, and get some more history about the reason for this exacerbation.

Q: What level of billing does this qualify for?

A: This would qualify for level-3 (99233) billing. She would qualify for severe exacerbation of chronic illness by virtue of her being hospitalized (high level in complexity of problem addressed) and drug therapy needing intensive monitoring of labs for toxicity (high level for risk of complication). Even though the complexity of the data reviewed is moderate, she achieved high-level MDM, or medical decision making, in two out of three elements.

Tip

Always look at the medical decision making table when billing. A chronic illness that needs hospital admission for exacerbation is usually looked upon as a severe exacerbation, and IV diuretics are common medications that need intensive monitoring of labs for toxicity. ■

Dr. Mehta is the medical director and an assistant professor of medicine at the University of Cincinnati Medical Center in Cincinnati.

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THE Hospitalist®

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In the Literature

University of New Mexico Medical Research Reviews

By Justin Miller, MD, FACP, Harpreet Kaur, MD, Abu Baker Sheikh, MD, Swathi Subramany, MD, FACP, Rebecca Richardson, MD, and Jacob G. Imber, MD

University of New Mexico, Albuquerque, N.M.

IN THIS ISSUE

By Justin Miller, MD, FACP

1 Direct oral challenge is non-inferior to skin testing in low-risk penicillin allergy patients

CLINICAL QUESTION: Is there an alternative to penicillin skin testing for low-risk penicillin allergies?

BACKGROUND: While approximately 10% of the population report penicillin allergies, studies indicate that more than 95% of these individuals will have negative allergy testing and can tolerate penicillin. The current gold standard for relabeling a penicillin allergy involves skin testing followed by direct oral challenge. However, specialized allergy skin testing is not universally accessible, and can be labor-intensive and costly. Moreover, skin testing alone doesn't conclusively demonstrate penicillin tolerance.

Dr. Miller

STUDY DESIGN: Multicenter, open-label, randomized, controlled trial

SETTING: Six large academic centers in three countries

SYNOPSIS: 382 outpatient adults labeled with a reported penicillin allergy were assessed using the PEN-FAST scoring system. Those with a PEN-FAST score of less than 3 and no history of anaphylaxis were eligible. Participants were randomized to either intradermal testing followed by direct oral challenge or direct oral challenge alone. The primary outcome showed one patient in each intervention group experienced immune-mediated reactions, both managed with a single dose of an oral antihistamine. Limitations include lower PEN-FAST scores for almost all enrollees (scores of 0-1) and an exclusion of patients with a history of anaphylaxis. In addition, most of the participants were white, limiting the study's generalizability to other racial demographics. For hospitalists, our patients have ample time and baseline supervision to undergo this testing more easily than other health care contacts.

BOTTOM LINE: Direct oral challenge for low-risk penicillin-allergic patients using the PEN-FAST tool is non-inferior to the current practice of skin testing prior to oral challenge.

CITATION: Copaescu AM, et al. Efficacy of a clinical decision rule to enable direct oral challenge in patients with low-risk penicillin allergy: The PALACE randomized clinical trial. *JAMA Intern Med.* 2023. doi:10.1001/jamainternmed.2023.2986

Dr. Miller is an academic hospitalist and associate professor of medicine in the department of hospital medicine at the University of New Mexico Hospital, Albuquerque, N.M.

By Harpreet Kaur, MD

2 Deprescribing medications among older adults from the end of hospitalization through post-acute care

CLINICAL QUESTION: Can inpatient deprescribing interventions upon post-acute care facility discharge reduce the total medication burden?

Dr. Kaur

BACKGROUND: Polypharmacy remains a common concern in elderly patients due to associated adverse health outcomes. While deprescribing can be an important therapeutic intervention, it is usually practiced in primary care settings. There is underutilization of deprescribing in inpatient settings due to limited data and unclear information on the safety and effectiveness of deprescribing.

STUDY DESIGN: Randomized controlled trial, May 2016 to October 2020

SETTING: Vanderbilt University Medical Center, Nashville, Tenn.

SYNOPSIS: 284 patients (mean age 76.2 years; 83% white, 62% females) admitted to the hospital and later discharged to a post-acute care facility (PAC) were randomized 1:1 to the deprescribing or control group. Interventions, led by pharmacists or clinicians, were initiated in the hospital and continued throughout the PAC with a 90-day follow-up. The deprescribing group took a mean of 14% fewer medications at discharge to PAC and 15% fewer medications at the 90-day follow-up (mean ratio, 0.85; 95% CI, 0.78-0.92; P <.001). There was a statistically significant reduction in exposure to inappropriate medications and combined anticholinergic and sedative burden. No increase in adverse drug events nor adverse drug withdrawal events in the deprescribing group was noticed.

Limitations include non-blinded study design, potential enrollment bias, limited generalizability due to a single center, and predominantly white, English-speaking participants.

BOTTOM LINE: Inpatient patient-centered deprescribing can safely reduce drug burden without increasing adverse effects, emphasizing its importance at discharge.

CITATION: Vasilevskis EE, et al. Deprescribing medications among older adults from end of hospitalization through postacute care: A shedMEDS randomized clinical trial. *JAMA Intern Med.* 2023;183(3):223-31.

Dr. Kaur is a hospitalist and assistant professor of medicine at the University of New Mexico Hospital, Albuquerque, N.M.

By Abu Baker Sheikh, MD

3 Weighing benefits and risks of indefinite anticoagulation in first unprovoked VTE

CLINICAL QUESTION: Is indefinite anticoagulation beneficial for patients with a first unprovoked venous thromboembolism (VTE) after initial treatment?

Dr. Sheikh

BACKGROUND: VTE is a chronic, recurrent condition with significant health care costs. While guidelines recommend indefinite anticoagulation for a first unprovoked VTE, the balance between benefits and harms remains debated.

STUDY DESIGN: Markov modeling study

SETTING: Canadian health care public payer perspective

SYNOPSIS: In a hypothetical cohort of 1,000 patients aged 55 years with a first unprovoked VTE, indefinite anticoagulation using direct oral anticoagulants was assessed. The results showed that while indefinite anticoagulation prevented 368 recurrent VTE events, including 14 fatal pulmonary emboli, it also led to 114 major

bleeding events, with 30 intracranial hemorrhages and 11 bleeding-related deaths. The intervention cost an additional CAD $16,014 per person without increasing quality-adjusted life-years. The study's outcomes were particularly sensitive to the case-fatality rate of major bleeding and the annual risk for major bleeding during extended anticoagulation. The study's generalizability is limited by its focus on a specific population of patients (55-year-olds with a first unprovoked VTE) and its use of a Markov modeling approach.

Hospitalists should engage patients in shared decision-making to determine the optimal duration of anticoagulation for patients with a first unprovoked VTE, carefully weighing the potential risks and benefits of indefinite anticoagulation.

BOTTOM LINE: Indefinite anticoagulation for the first unprovoked VTE presents a complex benefit-harm tradeoff. Shared decision-making, incorporating individual patient preferences, is crucial when considering treatment duration for unprovoked VTE.

CITATION: Khan F, et al. Indefinite anticoagulant therapy for first unprovoked venous thromboembolism: A cost-effectiveness study. *Ann Intern Med*. 2023;176(7):949-60.

4 Pitavastatin and cardiovascular disease prevention in HIV patients

CLINICAL QUESTION: Does pitavastatin reduce the risk of cardiovascular disease in human immunodeficiency virus (HIV)-infected individuals?

BACKGROUND: Individuals with HIV infection have up to twice the risk of atherosclerotic cardiovascular disease compared to the general population. While statins are known to lower low-density lipoprotein cholesterol and have beneficial effects on inflammatory and immune pathways, their efficacy in primary prevention of cardiovascular events in HIV-infected patients is not well-established.

STUDY DESIGN: Phase 3 randomized trial

SETTING: Multi-center trial across 12 countries

SYNOPSIS: In this study of 7,769 virally suppressed HIV-infected individuals (median age 50), the efficacy of pitavastatin calcium (4 mg daily) was compared to a placebo in preventing major cardiovascular events. Over a median follow-up of 5.1 years, the pitavastatin group exhibited a reduced event rate of 4.81 per 1,000 person-years, compared to the placebo group's 7.32. This translated to a hazard ratio of 0.65. However, the pitavastatin group reported increased muscle-related symptoms and a higher incidence of diabetes mellitus. The study's limitations include its relatively short duration, focus on a healthier HIV cohort, and lack of comparison with other statins.

Hospitalists should note that while pitavastatin may offer cardiovascular benefits for well-controlled HIV-infected patients, it's vital to monitor for potential muscle complications and new diabetes onset.

BOTTOM LINE: Pitavastatin effectively prevents cardiovascular disease in individuals with well-controlled HIV and a low-to-moderate cardiovascular disease risk, while maintaining a favorable tolerability profile.

CITATION: Grinspoon SK, et al. Pitavastatin to prevent cardiovascular disease in HIV infection. *N Engl J Med*. 2023;389(8):687-99.

Dr. Sheikh is the associate program director, department of internal medicine, and assistant professor, division of hospital medicine, at the University of New Mexico, Albuquerque, N.M.

By Swathi Subramany, MD, FACP

5 DAPT non-inferior to alteplase for minor AIS

CLINICAL QUESTION: Is dual antiplatelet therapy (DAPT) non-inferior to intravenous (IV) thrombolysis in patients with minor non-disabling acute ischemic strokes (AIS)?

Dr. Subramany

BACKGROUND: Minor strokes comprise about half of all AIS but the evidence for IV thrombolytics in this cohort has been inconclusive. While prior studies have confirmed the superiority and safety of short-term DAPT in acute minor strokes compared to aspirin alone; no studies have previously compared DAPT versus IV thrombolytics.

STUDY DESIGN: Multi-center, randomized, open-label, blinded endpoint assessment, non-inferiority trial

SETTING: 38 hospitals in China

SYNOPSIS: 760 adult patients with AIS (National Institutes of Health Stroke Scale Score [NIHSS] <=5) presenting within 4.5 hours of symptom onset; participants were randomly assigned to DAPT (clopidogrel and aspirin for approximately 12 days) or IV alteplase. Both groups then received guideline-based antiplatelet therapy. The primary outcome was an excellent functional outcome, defined as a modified Rankin Scale score of 0 or 1, at 90 days. The median NIHSS was 2, and approximately 70% of the patients were men. At 90 days, 93.8% in the DAPT group and 91.4% in the alteplase group achieved an excellent functional outcome. The risk difference met the non-inferiority criteria (P <0.001). The alteplase group (6.5%) had more spontaneous intracranial hemorrhages and other bleeding events compared to the DAPT group (1.9%). The DAPT group had fewer patients with early neurological deterioration at 24 hours (defined as a greater than two increase on the NIHSS). Study limitations are the potential lack of generalizability and the lack of robust data on subgroup analysis based on the etiology of stroke. Secondary outcomes and subgroup analyses should be interpreted with caution.

BOTTOM LINE: In patients with non-disabling AIS presenting early, DAPT was non-inferior compared to IV alteplase with regard to excellent functional outcomes at 90 days and had fewer bleeding events.

CITATION: Chen H, et al. Dual antiplatelet therapy vs alteplase for patients with minor nondisabling acute ischemic stroke: The ARAMIS randomized clinical trial. *JAMA*. 2023;329(24):2135–44.

6 No difference between liberal versus strict perioperative BP management in non-cardiac surgery

CLINICAL QUESTION: In patients on antihypertensive medications (AHMs) such as angiotensin-converting-enzyme inhibitors (ACE-Is) or angiotensin receptor blockers (ARBs) undergoing inpatient non-cardiac surgery, what blood pressure (BP) management strategy reduces the risk of major vascular complications?

BACKGROUND: Perioperatively, both hypotension and hypertension can lead to vascular complications after non-cardiac surgery. There is a lack of large robust trials that inform how AHMs should be managed; there is conflicting data regarding what the minimal intraoperative mean arterial pressure should be to reduce complications.

STUDY DESIGN: Randomized controlled trial comparing two perioperative BP management strategies

SETTING: 110 hospitals across 22 countries, from July 2018 to July 2021

SYNOPSIS: Using the measure accurately, act rapidly, and partner with patients (MAP) measurement techniques, 7,490 patients with vascular risk factors and taking at least one AHM were randomized to either a hypotension-avoidance strategy (step-wise AHM addition for SBP >130 mmg Hg on days 0-2 after surgery, avoidance of ACE-I and ARBs on night before and days 0-3 after surgery; intraoperative MAP target >80mm Hg), or a hypertension-avoidance strategy (continuation of all chronic AHMs before and after surgery, intraoperative MAP target 60 mm Hg). The mean age was 70 years, patients took a mean of two AHMs with a majority taking ACE-I or ARBS and/or beta-blockers. The primary outcome, a composite of vascular death, non-fatal myocardial injury, stroke, and cardiac arrest at 30 days, occurred in 13.9% of the hypotension-avoidance group and in 14% of the hypertension-avoidance group. Despite more significant hypotensive episodes in the hypertension-avoidance arm, this did not translate to higher major vascular complications. Limitations of the study include suboptimal adherence to treatment strategies and short-term 30-day follow-up.

BOTTOM LINE: For inpatient non-cardiac surgeries, there's no difference in major vascular complication risk between hypotension- or hypertension-avoidance strategies, regardless of withholding ACE-I or ARBs.

CITATION: Marcucci M, et al. Hypotension-avoidance versus hypertension-avoidance strategies in noncardiac surgery: An international randomized controlled trial. *Ann Intern Med*. 2023;176(5):605-14.

Dr. Subramany is a hospitalist and assistant professor of medicine at the University of New Mexico Hospital, Albuquerque, N.M.

By Rebecca Richardson, MD

7 Intensive blood pressure control with PO or IV harmful in hospitalized older adults

CLINICAL QUESTION: How do clinical outcomes compare between patients with asymptomatic hypertension treated intensively versus not while hospitalized?

Dr. Richardson

BACKGROUND: While the long-term cardiac effects of untreated hypertension are clear, the short-term in-hospital consequences of hypertension remain uncertain. Previous studies have indicated that lowering blood pressure in hospital can lead to hypotension and acute kidney injury (AKI).

STUDY DESIGN: Retrospective observational cohort study

SETTING: Veterans Affairs (VA) hospital

SYNOPSIS: In a study of 66,000 white, male, VA patients aged over 65, 14,000 received intensive blood pressure control with intravenous (IV) or additional oral antihypertensives due to elevated blood pressures early during their hospital stay. Those who received intensive blood pressure treatment faced a higher risk of the primary outcome (a composite of inpatient mortality, AKI, stroke, myocardial injury, beta-type natriuretic peptide elevation, and intensive care unit (ICU) transfer) with an odds ratio of 1.28. They were also more likely to experience each component of the composite outcome, except for stroke and mortality. The HRs for myocardial injury and AKI were 1.23 and 1.26 respectively. Patients treated with IV antihypertensives had higher composite primary outcomes, death, ICU transfer, and myocardial injury. The results suggest that treating asymptomatic hypertension should be approached with caution, emphasizing the need to address the underlying causes of elevated blood pressure. However, given the study's predominantly older, white, male, VA-patient population, its findings may not be generalizable to a broader demographic.

BOTTOM LINE: Intensive blood pressure control in older patients with asymptomatic hypertension is associated with increased adverse outcomes, with IV antihypertensives posing a greater risk than oral medications.

CITATION: Anderson TS, et al. Clinical outcomes of intensive inpatient blood pressure management in hospitalized older adults. *JAMA Intern Med*. 2023;183(7):715-23.

8 Delayed antibiotics in suspected sepsis increase shock risk and mortality

CLINICAL QUESTION: Does the time to first antibiotics affect the risk of progression to septic shock?

BACKGROUND: The Surviving Sepsis Campaign emphasized early infection recognition and antibiotic administration to reduce sepsis-related morbidity and mortality. While delayed antibiotics during severe sepsis can lead to septic shock and increased mortality, the Infectious Diseases Society of America now advocates for a tailored approach to antibiotic use based on risk/benefit balance. This study evaluated the risk of progression to shock and subsequent mortality in patients not yet diagnosed with sepsis.

STUDY DESIGN: Retrospective cohort study

SETTING: University of Kansas Hospital Emergency Department

SYNOPSIS: From March 2007 to March 2020, more than 74,000 patients aged 18 or older with suspected but unconfirmed sepsis were evaluated; 7.4% (5,510) of patients progressed to septic shock. On evaluation, patients who appeared sicker on presentation (with higher quick sequential organ failure assessment, or qSOFA, and systemic inflammatory response syndrome, or SIRS, scores) progressed to shock more often despite getting antibiotics earlier. However, even in patients who presented with vague or milder symptoms, with each passing hour without antibiotics, the risk of septic shock increased, especially in the first five hours. Despite early antibiotic administration, 3% still progressed to shock and had increased mortality. This underscores the need for prompt antibiotic use in all suspected sepsis cases, not just confirmed ones, to mitigate shock risks and enhance in-hospital survival. Limitations include the study's retrospective nature, single-center focus, inability to assess antibiotic appropriateness and therapy duration, and reliance on infection signs without a confirmed diagnosis.

BOTTOM LINE: Even in patients with suspected but undiagnosed sepsis, early antibiotics can prevent progression to shock and death.

CITATION: Bisarya R, et al. Antibiotic timing and progression to septic shock among patients in the ED with suspected infection. *Chest*. 2022;161(1):112-20.

Dr. Richardson is a hospitalist and assistant professor in the department of internal medicine, division of hospital medicine at the University of New Mexico Hospital, Albuquerque, N.M.

By Jacob G. Imber, MD

9 P2Y12 inhibitor monotherapy after one to three months of DAPT reduces major bleeding risk without increasing ischemic risk after complex PCI

CLINICAL QUESTION: Does P2Y12 inhibitor monotherapy after one to three months of dual antiplatelet therapy (DAPT) improve clinical decrease in major bleeding risk without increasing ischemic risk in patients who have received complex percutaneous coronary intervention (PCI)?

Dr. Imber

BACKGROUND: DAPT puts patients at a high risk of bleeding events. Recent studies have demonstrated similar ischemic outcomes after switching to P2Y12 inhibitor monotherapy (such as clopidogrel) after one to three months of DAPT with decreased major bleeding events in the setting of simple PCI. It is unknown whether this outcome holds true for complex PCI. Complex PCI is defined as three vessels treated, at least three stents implanted, at least three lesions treated, bifurcation with two stents implanted, total stent length >60mm, or stenting of a chronic total occlusion.

STUDY DESIGN: Evaluation of pooled patient data from five separate trials

SETTING: Pooled patient-level data from five randomized controlled trials

SYNOPSIS: Using pooled, patient-level data, 4,685 patients who received complex PCI were evaluated for the effect of DAPT de-escalated to P2Y12 inhibitor after one to three months versus standard DAPT therapy. Primary efficacy outcomes were all-cause mortality, myocardial infarction, and stroke. The safety endpoint was Bleeding Academic Research Consortium 3 or 5 bleeding. All primary efficacy endpoints were similar between the two groups and the treatment effect was consistent across all components of the complex PCI definition. P2Y12 inhibitor monotherapy consistently reduced bleeding outcomes in complex PCI (HR, 0.51,;95% CI, 0.31-0.84).

Hospitalists should be aware that patients, especially patients struggling with adverse bleeding, may not need to be on DAPT if they are more than one month from coronary intervention regardless of intervention complexity.

BOTTOM LINE: P2Y12 inhibitor monotherapy one to three months after DAPT for complex PCI decreased bleeding risk without increasing ischemic risk as compared with DAPT.

CITATION: Gragnano F, et al. P2Y12 Inhibitor monotherapy or dual antiplatelet therapy after complex percutaneous coronary interventions. *J Am Coll Cardiol*. 2023;81(6):537-52.

Dr. Imber is an assistant professor in the department of internal medicine, division of hospital medicine, and director of the internal medicine simulation education and hospitalist procedural certification at the University of New Mexico, Albuquerque, N.M. ■

Veklury®
remdesivir 100 MG FOR INJECTION

For patients hospitalized with **COVID-19**,[1]

HELP REDUCE DISEASE PROGRESSION AND SHORTEN RECOVERY TIME[1,2]

INDICATION

VEKLURY is indicated for the treatment of COVID-19 in adults and pediatric patients (≥28 days old and weighing ≥3 kg), who are:

- Hospitalized, or
- Not hospitalized, have mild-to-moderate COVID-19, and are at high risk for progression to severe COVID-19, including hospitalization or death.

IMPORTANT SAFETY INFORMATION

Contraindication

- VEKLURY is contraindicated in patients with a history of clinically significant hypersensitivity reactions to VEKLURY or any of its components.

Warnings and precautions

- **Hypersensitivity, including infusion-related and anaphylactic reactions:** Hypersensitivity, including infusion-related and anaphylactic reactions, has been observed during and following administration of VEKLURY; most reactions occurred within 1 hour. Monitor patients during infusion and observe for at least 1 hour after infusion is complete for signs and symptoms of hypersensitivity as clinically appropriate. Symptoms may include hypotension, hypertension, tachycardia, bradycardia, hypoxia, fever, dyspnea, wheezing, angioedema, rash, nausea, diaphoresis, and shivering. Slower infusion rates (maximum infusion time of up to 120 minutes) can potentially prevent these reactions. If a severe infusion-related hypersensitivity reaction occurs, immediately discontinue VEKLURY and initiate appropriate treatment (see Contraindications).
- **Increased risk of transaminase elevations:** Transaminase elevations have been observed in healthy volunteers and in patients with COVID-19 who received VEKLURY; these elevations have also been reported as a clinical feature of COVID-19. Perform hepatic laboratory testing in all patients (see Dosage and administration). Consider discontinuing VEKLURY if ALT levels increase to >10x ULN. Discontinue VEKLURY if ALT elevation is accompanied by signs or symptoms of liver inflammation.
- **Risk of reduced antiviral activity when coadministered with chloroquine or hydroxychloroquine:** Coadministration of VEKLURY with chloroquine phosphate or hydroxychloroquine sulfate is not recommended based on data from cell culture experiments, demonstrating potential antagonism, which may lead to a decrease in the antiviral activity of VEKLURY.

Adverse reactions

- The most common adverse reaction (≥5% all grades) was nausea.
- The most common lab abnormalities (≥5% all grades) were increases in ALT and AST.

Dosage and administration

— Administration should take place under conditions where management of severe hypersensitivity reactions, such as anaphylaxis, is possible.

ECMO=extracorporeal membrane oxygenation.

In the ACTT-1 overall study population, patients experienced

Median 10 days with VEKLURY vs 15 days with placebo; recovery rate ratio: 1.29 (95% CI, 1.12 to 1.49), *P*<0.001[1,2]

- Recovery was defined as patients who were no longer hospitalized or hospitalized but no longer required ongoing COVID-19 medical care

Significantly greater likelihood of improvement in clinical status, a key secondary endpoint[1]

- Patients were 54% more likely to have improved clinical status on Day 15 vs placebo; odds ratio for improvement: 1.54 (95% CI, 1.25 to 1.91)

Helped reduce progression to more severe disease, an additional secondary endpoint[1-3]

- 7% absolute reduction in incidence of new noninvasive ventilation or high-flow oxygen with VEKLURY (17%, n=307) vs placebo (24%, n=266) in patients who did not receive either at baseline (95% CI, -14 to -1)
- 10% absolute reduction in incidence of new mechanical ventilation or ECMO with VEKLURY (13%, n=402) vs placebo (23%, n=364) in patients who did not receive either at baseline (95% CI, -15 to -4)

Adverse reaction frequency was comparable between VEKLURY and placebo[1]

- All adverse reactions (ARs), Grades ≥3: 41 (8%) with VEKLURY vs 46 (9%) with placebo; serious ARs: 2 (0.4%)* vs 3 (0.6%); ARs leading to treatment discontinuation: 11 (2%)† vs 15 (3%)

ACTT-1 was a randomized, double-blind, placebo-controlled, phase 3 clinical trial in hospitalized patients with confirmed SARS-CoV-2 infection and mild, moderate, or severe COVID-19. Patients received VEKLURY (n=541) or placebo (n=521) for up to 10 days. The primary endpoint was time to recovery within 29 days after randomization. Secondary endpoints included clinical status of patients on Day 15 as assessed on an 8-point ordinal scale and incidence of new high-flow oxygen requirement or new mechanical ventilation or ECMO.[1]

*Seizure (n=1), infusion-related reaction (n=1).

†Seizure (n=1), infusion-related reaction (n=1), transaminases increased (n=3), ALT increased and AST increased (n=1), GFR decreased (n=2), acute kidney injury (n=3).

IMPORTANT SAFETY INFORMATION (cont'd)

Dosage and administration (cont'd)

- **Treatment duration:**
  - For patients who **are hospitalized**, VEKLURY should be initiated as soon as possible after diagnosis of symptomatic COVID-19.
  - For patients who are hospitalized and do not require invasive mechanical ventilation and/or ECMO, the recommended treatment duration is 5 days. If a patient does not demonstrate clinical improvement, treatment may be extended up to 5 additional days, for a total treatment duration of up to 10 days.
  - For patients who are hospitalized and require invasive mechanical ventilation and/or ECMO, the recommended total treatment duration is 10 days.
  - For patients who are **not hospitalized**, diagnosed with mild-to-moderate COVID-19, and are at high risk for progression to severe COVID-19, including hospitalization or death, the recommended total treatment duration is 3 days. VEKLURY should be initiated as soon as possible after diagnosis of symptomatic COVID-19 and within 7 days of symptom onset for outpatient use.
- **Testing prior to and during treatment:** Perform hepatic laboratory and prothrombin time testing prior to initiating VEKLURY and during use as clinically appropriate.
- **Renal impairment:** No dosage adjustment of VEKLURY is recommended in patients with any degree of renal impairment, including patients on dialysis. VEKLURY may be administered without regard to the timing of dialysis.

Pregnancy and lactation

- **Pregnancy:** A pregnancy registry has been established for VEKLURY. Available clinical trial data for VEKLURY in pregnant women have not identified a drug-associated risk of major birth defects, miscarriage, or adverse maternal or fetal outcomes following second- and third-trimester exposure. There are insufficient data to evaluate the risk of VEKLURY exposure during the first trimester. Maternal and fetal risks are associated with untreated COVID-19 in pregnancy.
- **Lactation:** VEKLURY can pass into breast milk. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for VEKLURY and any potential adverse effects on the breastfed child from VEKLURY or from an underlying maternal condition. Breastfeeding individuals with COVID-19 should follow practices according to clinical guidelines to avoid exposing the infant to COVID-19.

Please see Brief Summary of full Prescribing Information on the following page.

References: 1. VEKLURY. Prescribing Information. Gilead Sciences, Inc.; 2023. **2.** Beigel JH, Tomashek KM, Dodd LE, et al; ACTT-1 Study Group. Remdesivir for the treatment of COVID-19—final report. *N Engl J Med*. 2020;383(19):1813-1826. doi:10.1056/NEJMoa2007764 **3.** Beigel JH, Tomashek KM, Dodd LE, et al; ACTT-1 Study Group. Remdesivir for the treatment of COVID-19—final report. Supplementary appendix. *N Engl J Med*. 2020;383(19):1813-1826. Accessed May 24, 2022. https://www.nejm.org/doi/suppl/10.1056/NEJMoa2007764/suppl_file/nejmoa2007764_appendix.pdf

GILEAD

VEKLURY® (remdesivir)
Brief summary of full Prescribing Information. Please see full Prescribing Information.
Rx Only.

INDICATIONS AND USAGE

VEKLURY is indicated for the treatment of COVID-19 in adults and pediatric patients (≥28 days old and weighing ≥3 kg), who are:

- Hospitalized, or
- Not hospitalized, have mild-to-moderate COVID-19, and are at high risk for progression to severe COVID-19, including hospitalization or death.

DOSAGE AND ADMINISTRATION *[Also see **Warnings and Precautions, Adverse Reactions, and Use in Specific Populations**]*:

Testing Before Initiation and During Treatment: Perform eGFR, hepatic laboratory, and prothrombin time testing prior to initiating VEKLURY and during use as clinically appropriate.

Recommended Dosage in Adults and Pediatric Patients ≥28 Days Old and Weighing ≥3 kg:

- For adults and pediatric patients weighing ≥40 kg: 200 mg on Day 1, followed by once-daily maintenance doses of 100 mg from Day 2, administered only via intravenous infusion.
- For pediatric patients ≥28 days old and weighing ≥3 kg: 5 mg/kg on Day 1, followed by once-daily maintenance doses of 2.5 mg/kg from Day 2, administered only via intravenous infusion.

Treatment Duration:

- For patients who are hospitalized and require invasive mechanical ventilation and/or ECMO, the recommended total treatment duration is 10 days. VEKLURY should be initiated as soon as possible after diagnosis of symptomatic COVID-19.
- For patients who are hospitalized and do not require invasive mechanical ventilation and/or ECMO, the recommended treatment duration is 5 days. If a patient does not demonstrate clinical improvement, treatment may be extended up to 5 additional days, for a total treatment duration of up to 10 days.
- For patients who are not hospitalized, diagnosed with mild-to-moderate COVID-19, and at high risk for progression to severe COVID-19, including hospitalization or death, the recommended total treatment duration is 3 days. VEKLURY should be initiated as soon as possible after diagnosis of symptomatic COVID-19 and within 7 days of symptom onset.

Renal Impairment: No dosage adjustment of VEKLURY is recommended in patients with any degree of renal impairment, including patients on dialysis. VEKLURY may be administered without regard to the timing of dialysis.

Dose Preparation and Administration *[See full **Prescribing Information** for complete instructions on dose preparation, administration, and storage]*:

VEKLURY must be prepared and administered under supervision of a healthcare provider and must be administered via intravenous infusion only, over 30 to 120 minutes. Do not administer the prepared diluted solution simultaneously with any other medication.

- VEKLURY for injection (supplied as 100 mg lyophilized powder in vial) must be reconstituted with Sterile Water for Injection prior to diluting in a 100 mL or 250 mL 0.9% sodium chloride infusion bag.
- Care should be taken during admixture to prevent inadvertent microbial contamination; there is no preservative or bacteriostatic agent present in these products.

Dosage Preparation and Administration in Pediatric Patients ≥28 Days of Age and Weighing 3 kg to <40 kg:

The only approved dosage form of VEKLURY for pediatric patients ≥28 days of age and weighing 3 kg to <40 kg is VEKLURY for injection (supplied as 100 mg lyophilized powder in vial). Carefully follow the product-specific preparation instructions.

CONTRAINDICATIONS *[Also see **Warnings and Precautions**]*:

VEKLURY is contraindicated in patients with a history of clinically significant hypersensitivity reactions to VEKLURY or any of its components.

WARNINGS AND PRECAUTIONS *[Also see **Contraindications, Dosage and Administration, Adverse Reactions,** and **Drug Interactions**]*:

Hypersensitivity, Including Infusion-related and Anaphylactic Reactions: Hypersensitivity, including infusion-related and anaphylactic reactions, has been observed during and following administration of VEKLURY; most reactions occurred within 1 hour. Monitor patients during infusion and observe for at least 1 hour after infusion is complete for signs and symptoms of hypersensitivity as clinically appropriate. Symptoms may include hypotension, hypertension, tachycardia, bradycardia, hypoxia, fever, dyspnea, wheezing, angioedema, rash, nausea, diaphoresis, and shivering. Slower infusion rates (maximum infusion time ≤120 minutes) can potentially prevent these signs and symptoms. If a severe infusion-related hypersensitivity reaction occurs, immediately discontinue VEKLURY and initiate appropriate treatment.

Increased Risk of Transaminase Elevations: Transaminase elevations have been observed in healthy volunteers and in patients with COVID-19 who received VEKLURY; the transaminase elevations were mild to moderate (Grades 1-2) in severity and resolved upon discontinuation. Because transaminase elevations have been reported as a clinical feature of COVID-19, and the incidence was similar in patients receiving placebo versus VEKLURY in clinical trials, discerning the contribution of VEKLURY to transaminase elevations in patients with COVID-19 can be challenging. Perform hepatic laboratory testing in all patients.

- Consider discontinuing VEKLURY if ALT levels increase to >10x ULN.
- Discontinue VEKLURY if ALT elevation is accompanied by signs or symptoms of liver inflammation.

Risk of Reduced Antiviral Activity When Coadministered With Chloroquine or Hydroxychloroquine: Coadministration of VEKLURY with chloroquine phosphate or hydroxychloroquine sulfate is not recommended based on data from cell culture experiments, demonstrating potential antagonism which may lead to a decrease in the antiviral activity of VEKLURY.

ADVERSE REACTIONS *[Also see **Warnings and Precautions**]*:

Clinical Trials Experience: The safety of VEKLURY is based on data from three Phase 3 studies in 1,313 hospitalized adult subjects with COVID-19, one Phase 3 study in 279 non-hospitalized adult and pediatric subjects (12 years of age and older weighing at least 40 kg) with mild to moderate COVID-19, four Phase 1 studies in 131 healthy adults, and from patients with COVID-19 who received VEKLURY under the Emergency Use Authorization or in a compassionate use program. The NIAID ACTT-1 study was conducted in hospitalized subjects with mild, moderate, and severe COVID-19 treated with VEKLURY (n=532) for up to 10 days. Study GS-US-540-5773 (Study 5773) included subjects hospitalized with severe COVID-19 and treated with VEKLURY for 5 (n=200) or 10 days (n=197). Study GS-US-540-5774 (Study 5774) was conducted in hospitalized subjects with moderate COVID-19 and treated with VEKLURY for 5 (n=191) or 10 days (n=193). Study GS-US-540-9012 included non-hospitalized subjects, who were symptomatic for COVID-19 for ≤7 days, had confirmed SARS-CoV-2 infection, and had at least one risk factor for progression to hospitalization treated with VEKLURY (n=279; 276 adults and 3 pediatric subjects 12 years of age and older weighing at least 40 kg) for 3 days.

Adverse Reactions: The most common adverse reaction (≥5% all grades) was nausea.

Less Common Adverse Reactions: Clinically significant adverse reactions reported in <2% of subjects exposed to VEKLURY in clinical trials include hypersensitivity reactions, generalized seizures, and rash.

Laboratory Abnormalities: In a Phase 1 study in healthy adults, elevations in ALT were observed in 9 of 20 subjects receiving 10 days of VEKLURY (Grade 1, n=8; Grade 2, n=1); the elevations in ALT resolved upon discontinuation. No subjects (0 of 9) who received 5 days of VEKLURY had graded increases in ALT.

Laboratory abnormalities (Grades 3 or 4) occurring in ≥3% of subjects receiving VEKLURY in Trials NIAID ACTT-1, Study 5773, and/or Study 5774, respectively, were ALT increased (3%, ≤8%, ≤3%), AST increased (6%, ≤7%, n/a), creatinine clearance decreased, Cockcroft-Gault formula (18%, ≤19%, ≤5%), creatinine increased (15%, ≤15%, n/a), eGFR decreased (18%, n/a, n/a), glucose increased (12%, ≤11%, ≤4%), hemoglobin decreased (15%, ≤8%, ≤3%), lymphocytes decreased (11%, n/a, n/a), and prothrombin time increased (9%, n/a, n/a).

DRUG INTERACTIONS *[Also see **Warnings and Precautions**]*:

Due to potential antagonism based on data from cell culture experiments, concomitant use of VEKLURY with chloroquine phosphate or hydroxychloroquine sulfate is not recommended.

Remdesivir and its metabolites are in vitro substrates and/or inhibitors of certain drug metabolizing enzymes and transporters. Based on a drug interaction study conducted with VEKLURY, no clinically significant drug interactions are expected with inducers of cytochrome P450 (CYP) 3A4 or inhibitors of Organic Anion Transporting Polypeptides (OATP) 1B1/1B3, and P-glycoprotein (P-gp).

USE IN SPECIFIC POPULATIONS *[Also see **Dosage and Administration** and **Warnings and Precautions**]*:

Pregnancy

Risk Summary: A pregnancy registry has been established for VEKLURY. Available clinical trial data for VEKLURY in pregnant women have not identified a drug-associated risk of major birth defects, miscarriage, or adverse maternal or fetal outcomes following second- and third-trimester exposure. There are insufficient data to evaluate the risk of VEKLURY exposure during the first trimester. Maternal and fetal risks are associated with untreated COVID-19 in pregnancy. COVID-19 is associated with adverse maternal and fetal outcomes, including preeclampsia, eclampsia, preterm birth, premature rupture of membranes, venous thromboembolic disease, and fetal death.

Lactation

Risk Summary: A published case report describes the presence of remdesivir and active metabolite GS-441524 in human milk. Available data (n=11) from pharmacovigilance reports do not indicate adverse effects on breastfed infants from exposure to remdesivir and its metabolite through breastmilk. There are no available data on the effects of remdesivir on milk production. In animal studies, remdesivir and metabolites have been detected in the nursing pups of mothers given remdesivir, likely due to the presence of remdesivir in milk. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for VEKLURY and any potential adverse effects on the breastfed child from VEKLURY or from the underlying maternal condition. Breastfeeding individuals with COVID-19 should follow practices according to clinical guidelines to avoid exposing the infant to COVID-19.

Pediatric Use

The safety and effectiveness of VEKLURY for the treatment of COVID-19 have been established in pediatric patients ≥28 days old and weighing ≥3 kg. Use in this age group is supported by the following:

- Trials in adults
- An open-label trial (Study GS-US-540-5823) in 53 hospitalized pediatric subjects

Geriatric Use

Dosage adjustment is not required in patients over the age of 65 years. Appropriate caution should be exercised in the administration of VEKLURY and monitoring of elderly patients, reflecting the greater frequency of decreased hepatic, renal, or cardiac function, and of potential concomitant disease or other drug therapy.

Renal Impairment

No dosage adjustment of VEKLURY is recommended for patients with any degree of renal impairment, including those on dialysis.

Hepatic Impairment

Perform hepatic laboratory testing in all patients before starting VEKLURY and while receiving VEKLURY as clinically appropriate.

OVERDOSAGE

There is no human experience of acute overdosage with VEKLURY. Treatment of overdose with VEKLURY should consist of general supportive measures including monitoring of vital signs and observation of the clinical status of the patient. There is no specific antidote for overdose with VEKLURY.

214787-GS-014

GILEAD

SHM's 2023 *State of Hospital Medicine* Report Includes New Data

First data since before pandemic

By Teresa Caponiti

SHM's 2023 *State of Hospital Medicine (SoHM)* Report contains the first data on hospital medicine groups since before the COVID-19 pandemic started in early 2020. SHM paused the normal two-year cadence of the report in 2022 out of concern about the potential validity and utility of data collected during the height of the pandemic. This year's report shows that while many aspects of the health care system have changed over the past three years, much has remained consistent in hospital medicine.

The *SoHM* Report defines hospital medicine industry standards and is the most comprehensive resource on hospital medicine group configuration and operation. Whether you're a practice administrator, physician, nurse practitioner, physician assistant, academic, hospital medicine group leader, hospitalist management company, or a hospital or medical-group executive, the *SoHM* Report contains regional and national trends in hospital medicine that can help you make informed decisions and improve groups.

The report includes data on practice demographics, staffing levels, turnover, staff growth, compensation models, and financial support for solid evidence-based management decisions from across the country. This year's report includes more data than ever before, with metrics on the use of telehealth technology, staffing and scheduling flexibility, backup and jeopardy systems, and leadership's role in promoting well-being. Here are a few highlights:

- 42.3% of groups are using telehealth in a variety of ways, such as providing coverage for patients in hospital at home or centralized telemedicine offices or for night coverage to or from a remote hospital location.
- 59% of groups reported implementing increased scheduling flexibility in the last year and more than three-quarters of groups are allowing at least some clinical work to be completed offsite.
- Two-thirds of groups regularly measure well-being and burnout, but only 20.9% of groups have an employee whose non-clinical focus is to address the needs of the group.

New questions, coupled with long-standing inquiries, provide a clearer picture of the field of hospital medicine as it is now and how it's evolved during the last three years.

The 2023 *SoHM* Report also includes results from the inaugural Hospital Medicine Workforce Experience Survey, designed to provide insight into individual hospitalists' experiences with workplace structures, including backup systems and patient census. Survey questions also included queries about participants' levels of well-being, burnout, and engagement. Where possible, the 2023 *SoHM* Report provides an analysis of the intersection between these data points and workplace structures.

Unsurprisingly, hospital medicine faces challenges with burnout, which *The Hospitalist* has covered extensively. Despite this, most hospitalists reported feeling full of meaning and purpose and noted that they were able to use their skills to make a meaningful difference. The data are helping SHM and, we hope, group leaders across the field, think of ways to better support frontline hospitalists and the hospital medicine team. This new Workforce Experience Survey adds important complementary data to the traditional group-level responses.

Previous readers of the report may note that the 2023 *SoHM* Report has a smaller sample size than in recent years, with 373 groups participating. However, even with this smaller sample size, more hospitalists are represented in the data than ever before. SHM estimates the data comprised approximately 20% of the hospitalists practicing nationwide.

SHM hypothesizes that the smaller sample size is due to a variety of factors, including the consolidation of hospital medicine groups, as this trend has continued for several years. For the last several reports, the number of groups participating has trended downward, but the average number of physicians participating grew. The average number of hospitalists grew in every region, and most groups report that they will add full-time equivalents in the coming year. Furthermore, the sample size could be related to the timing of the survey, which may have presented a challenge for certain groups. In January and February 2023, many hospitals, particularly children's hospitals, were experiencing high patient volumes and staffing challenges. Participating in the survey, which can be time-consuming, may have been unfeasible for many.

The 2023 *SoHM* Report provides valuable and useful insights into the specialty of hospital medicine. Many of the pre-pandemic trends in the operations of hospital medicine groups continue. For example, in addition to the growth observed in group size, the presence of nurse practitioners and physician assistants in hospital medicine continues to expand, and hospitalist compensation is still rising. Most importantly, the 2023 *SoHM* Report offers insight into how hospital medicine groups have adapted to post-pandemic workforce realities.

And, while health care professionals have adapted to the post-pandemic realities, that landscape continues to evolve and present challenges. SHM is confident that the 2023 *State of Hospital Medicine* Report gives its readers the data they need to make informed decisions in the coming year as hospitalists and health care systems continue to navigate the future of the specialty.

SHM has updated the online platform and the electronic report is easier to use, allowing users to navigate quickly between sections to find the data they need. Learn more about the 2023 *SoHM* Report and how to order at hospitalmedicine.org/sohm. ■

Ms. Caponiti

Ms. Caponiti is SHM's practice management manager.

Bedside Rounding—Is it Right for You?

Pros, cons, and tips for success

By Vanessa Caceres

Bedside rounding, a practice dating back more than a century, is not uniformly implemented. Many physicians are unsure of its effectiveness in improving patient care and teaching learners, and it conflicts with many pandemic protocols.

Some hospitalists suggest selecting patients or scenarios for bedside rounding instead of meeting in a conference room or catching colleagues in the hallway. Others believe it should be used for all patients.

The pros

Many clinicians see advantages to bedside rounding; for one, patients seem to like it.

"When done well, everyone benefits," said Annie Massart, MD, assistant professor of medicine at Emory University in Atlanta. "The literature suggests that patients prefer it, which makes sense because it's an important tool for centering our patients in their care." Dr. Massart, who says she's passionate about bedside rounds, describes the opportunity to foster shared decision-making as one major pro for bedside rounding.

Dr. Massart

In pediatrics, involving patients—or, more accurately, their parents—in decision making is the norm, says Christopher Landrigan, MD, MPH, chief, division of general pediatrics at Boston Children's Hospital in Boston and the William Berenberg Professor of Pediatrics at Harvard Medical School. This helps to keep them informed and involved with their child's care. Still, Dr. Landrigan thinks bedside rounding can translate into adult medicine well and that the biggest barrier is the hospital culture.

Dr. Landrigan

Another advantage to bedside rounding is that it can help trainees grow as more experienced physicians can observe them and provide granular feedback, Dr. Massart said. "Learners want to improve and are tired of being told to 'read more' at the end of each rotation. When I've spent each morning with them at the bedside, I'm able to observe their exam skills and give them nuanced feedback on how they connect with their patients."

Specifically bedside rounds can help assess trainees on empathy, how they answer patient questions, how they relay a plan with minimal medical jargon, and how they navigate language and cultural barriers, says Ali Farkhondehpour, MD, FACP, FHM, associate clinical professor with the University of California San Diego, and a hospitalist in the division of hospital medicine at U.C. San Diego Medical Center.

Dr. Farkhondehpour

Bedside rounding also can be just as, or more, efficient compared to other methods. A Journal of Hospital Medicine article found that when comparing bedside rounds to walking rounds, the time spent on them per patient tends to be similar.[1] However, it may not feel that way, says John T. Ratelle, MD, associate professor of medicine and a hospitalist with the Mayo Clinic in Rochester, Minn. "There's some upfront investment required. It's a learned skill. It's hard to go into a room and talk to a patient about their condition with them as well as to attendings and professional staff," he said. He describes bedside rounding as cognitively more demanding, which is likely what makes it feel longer.

MONKEY BUSINESS

Dr. Ratelle

They may be in the minority, but bedside rounding is also what just seems to work best for some hospitalists. Dr. Ratelle worked previously with an intern who was trained early on in bedside rounding and actually preferred it to other methods.

The cons

Of course, if bedside rounds were perfect, everyone would use them. Yet they have some drawbacks.

As Dr. Ratelle mentions, the cognitive demands of bedside rounding compared with simply meeting with peers outside of the patient's room could make the latter approach preferable. The current demands on medical professionals in hospitals combined with the idea of doing bedside rounds may sound overwhelming. "It'd be cognitively less demanding to meet in a conference room that's a 'safe space'," he said. "I think that's one reason why bedside rounding is withering."

Another reason that bedside rounding may be used less frequently is that many hospitals are still in "COVID mode," even if the threat of the virus is less foreboding than it once was. The routine of discussing care outside of the patient's room continues at many medical centers, Dr. Farkhondehpour says. Some are pushing to return to pre-COVID bedside routines while others are sticking with the methods they have used over the past few years. "I think this has become an 'old habits are hard to break' scenario," he said.

Bedside rounds may not be the right choice for every patient scenario, Dr. Farkhondehpour says. For instance, complex goals-of-care discussions are often lengthy, especially when hospice may be part of it. "The mornings are hard to initiate a meaningful goals-of-care discussion and then leave and come back to pick up where you left off from," he said.

Hybrid method

While some hospitalists may have a strong proclivity for bedside rounding or card flipping in internal medicine, Dr. Ratelle says the right answer may be somewhere in between, deciding which scenarios would benefit the most from bedside rounds.

First, you need to be with a patient who needs it and benefits from it, he says.

Next, you need a leader who feels comfortable at the bedside. "Often that's the attending physician, but it doesn't have to be," Dr. Ratelle said. Leadership support from the hospital system is also crucial.

The third factor is having the time and space to do a bedside round. If the workload for a particular day seems manageable, that also sets the day up for bedside rounding. However, Dr. Landrigan points out, research finds the time it takes is about the same as conference-room rounds.

Dr. Farkhondehpour favors a hybrid model of bedside rounding for new patients admitted overnight or patients with new acute overnight events, a table round or card flip on patients who tend to be stable with less acute medical issues, and a walk-around on all others.

Dr. Landrigan prefers using bedside rounds for all patients, even if that creates a mental frameshift and additional education and coaching. "Because bedside rounds have been shown to broadly improve care, there is a risk that if you pick and choose whom you're going to do them on, systemic bias might creep in. Better to do them for everyone, and do them well," he said. ■

Vanessa Caceres is a medical writer in Bradenton, Fla.

References

1. Ricotta DN, et al. Things we do for no reason: Card flipping rounds. *J Hosp Med.* 2020;15:498-501.
2. Spicer JO, et al. Optimizing the educational value of bedside rounds by exploring perceptions of internal medicine residents. *South Med J.* 2022;115:294-300.

Additional Reading

In addition to the references, the following articles and website provide other background and perspectives related to bedside rounds.

1. Patel SJ, et al. Family, nurse, and physician beliefs on family-centered rounds: A 21-site study. *J Hosp Med.* 2022;17:945-55.
2. Starmer AJ, et al. Implementation of the I-PASS handoff program in diverse clinical environments: A multicenter prospective effectiveness implementation study. *J Hosp Med.* 2023;18:5-14.
3. Ratelle J, et al. The effect of bedside rounds on learning outcomes in medical education: A systematic review. *Academic Med.* 2022;97:923-30.
4. Ratelle JT, et al. Implementing bedside rounds to improve patient-centered outcomes: A systematic review. *BMJ Qual Saf.* 2019;28(4):317-326.
5. I-PASS Patient Safety Institute. Improving communication saves lives. I-PASS website. https://www.ipassinstitute.com/. Accessed July 31, 2023.

8 Tips for Better Bedside Rounding

There are a few guiding principles to keep in mind if you want to push for more bedside rounding at your medical center.

1. Get the right people on board. This includes hospital leadership as well as at least one influential hospitalist who will support and use bedside rounding, Dr. Landrigan says. If they are on board, others will follow.

2. Set expectations on the first day of training. Dr. Farkhondehpour advises explaining the benefits of bedside rounds to the team, including confirmation of patient history, teaching physical exam techniques, the assessment of communication skills, and the benefit of having these discussions with patients and the family to reduce returns to the bedside. For those new to bedside rounds, it can be helpful to start with some cases that are not medically complex, to set them up for success.

3. Prepare participants with some basic health-literacy concepts. With I-PASS, a methodology for patient-centered decision-making and patient handoff that has been developed and researched by Dr. Landrigan, one key component is training medical staff to use simpler health terms when possible. So, instead of saying, "The patient was febrile and hypertensive," you could say, "The patient had a fever and high blood pressure." Getting out of "medical speak" will make the information you share easier for patients to follow during bedside rounds.

4. Consider which conversations are best for bedside rounds and which are better for afternoon discussions with patients. If you need a complex goals-of-care discussion or have to deliver bad news to a patient (like a cancer diagnosis), that may be better served during times other than morning bedside rounds, Dr. Farkhondehpour says. An afternoon visit may be a less rushed time to discuss the next steps and the prognosis, he says.

5. Use the teach-back method with patients. After devising a treatment plan during a bedside round, Dr. Landrigan recommends saying to the patient or their parents or caregivers, "I know we've gone through a lot of information, but can you tell me what you understand the plan to be?" He says this helps confirm what they understood. "In medicine, we often just hope that they'll grasp it, which isn't often the case," he said.

6. If you're the physician training another physician, make it clear to patients who their doctor is. Dr. Massart likes to introduce herself as "the supervising physician, working with your doctor, Dr. Smith," to highlight the physician learner as their doctor. "When the trainee presents at the bedside and I ask them about the plan for the day, patients get to see the intern or student owning their plan of care," she said. This is in contrast with team rounds in the conference room, where patients inevitably see Dr. Massart as their doctor if she's the one doing updates after rounds.

7. Involve technology when possible. "Whether it's a computer on wheels or an iPad, having a computer on rounds is very helpful for reviewing data and real-time order entry," Dr. Massart said. She mentions a study done that asked interns at Emory about facilitators and barriers for bedside rounds; it found that readily accessible workstations on wheels were part of the "secret sauce" to an optimal rounding experience.[2]

If or when available, technology that patients can use—be it a tablet where they can easily see information such as the medications they are using, or a portal they can access—also could be part of the experience.

8. Be flexible. Every patient, learner, and situation is different. By staying flexible with trainees and patients, you can better meet their needs, Dr. Ratelle says. Thoughtful planning for when and how to use bedside rounds can help avoid situations like the one Dr. Massart had as a resident when an attending had the whole team do bedside rounds from 9 a.m. to 3 p.m. without a lunch break. ■

Onco-Hospitalists Bring Value to Patient Care

Their role as hospital representatives of the oncology care team

By Larry Beresford

Most working hospitalists will see cancer patients regularly on their hospital rounds since it's the main underlying condition for many hospital admissions—whether for the disease itself, side effects from cancer treatments, or possibly coincidental medical issues.

But a smaller number of hospitalists are focusing their practices on oncology patients, working with oncologists who—like many outpatient-based physicians before them throughout the history of hospital medicine—have found it ever harder to make in-person visits to their patients in the hospital.

At Memorial Sloan Kettering Cancer Center (MSKCC) in New York, which has one of the first and largest oncology hospitalist groups with nearly 60 members, the hospitalists assume responsibility for managing the care of patients admitted to the cancer center, consulting when needed by phone or email with the patients' oncologists.

"We were founded 19 years ago when I was hired as Memorial's first hospitalist," said Barbara Egan, MD, FACP, SFHM, chief of the hospital medicine service at MSKCC. "I think it started as something of an experiment by the chief of gastrointestinal oncology at the time, Dr. David Kelsen, who had an insight that what was bringing cancer patients into the hospital was mostly internal medicine problems like symptom management, infections, and late- or end-stage disease management." These did not require the expertise of a medical oncologist, she explained.

Dr. Egan

"He convinced them to hire me, and so I fell into the role. I was intrigued by the opportunity to start something new and to see where it could go. The experiment went swimmingly."

Hospitalists' added value

Oncology hospitalists typically are internal medicine physicians who care for acutely ill, hospitalized cancer patients, working closely with their outpatient oncologists. At MSKCC, the hospitalists' added value to the health system is to free up the oncologists so they can spend more time in the system's varied outpatient clinic settings, bringing more patients into the system, as well as on clinical trials and advancing oncology science.

In other settings, the oncology hospitalist (or onco-hospitalist) may co-manage cancer patients with their oncologist, whether in a cancer hospital, a cancer unit of a general hospital, or scattered around the hospital. There are also board-certified oncologists who perform the hospitalist's inpatient role for defined periods of time, based in oncology settings within a hospital.

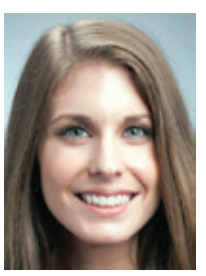
Little research has been published on outcomes for onco-hospitalists. One recent study from the Yale Cancer Center and Smilow Cancer Hospital in New Haven, Conn., published in May in the Journal of Hospital Medicine, found that oncology hospitalists decreased lengths of hospital stay, increased inpatient capacity, and reduced reported job stress among oncologists—while maintaining high-quality inpatient care.[1]

"We're not unique for cancer centers, and we weren't trail-blazers," said Jensa Morris, MD, the study's lead author and director of the hospitalist service at Smilow. "Most major cancer centers now have onco-hospitalists. Here at Yale, the oncologists were expected to be responsible for caring for their hospitalized patients. But among the oncologists themselves, there was a growing sense that maybe inpatient care was out of their wheelhouse—that this complex, high-acuity inpatient medical management would be better served by having a hospitalist take the lead."

Dr. Morris

Geographically, Yale oncologists are spread across most of Connecticut, often too far to come to the hospital in person. The patients have medical-care needs all day long, and that wasn't something their oncologists could provide. Plus they have so many other demands on their time, said Dr. Morris, who has been a hospitalist since 2002.

"We established this program so we can reassure the patient that their oncologist is in the loop, making management decisions with us," said her hospitalist colleague, Erin Gombos, MD. "While the patient is in the hospital, we reach out to the oncologist to give them the back story." Communication is frequent, typically by email. "Realistically, the management is mostly up to us, and then when the patient is ready for discharge, we get back to them with a full report," Dr. Gombos said.



Dr. Gombos

Earning the oncologists' trust

"We gained traction and our program took off when we earned the medical oncologists' trust by demonstrating to them that we did our job well," Dr. Egan said. "For them to allow us to join the team at MSKCC, even for the short period of time the patient is in the hospital, and take over the day-to-day care of the patient, they have to be able to trust us."

The learning curve for this job is long and steep, and turnover by the hospitalists would have been a program killer. "It's too much of an investment to get people up to speed in this subspecialty area and then have them leave." That has meant recruiting and retaining strong clinicians who can learn, on the job, a working knowledge of oncologic conditions and treatments, she said.

But it is particularly challenging since new onco-hospitalists at MSKCC are asked to spend their first few years as nocturnists, only working night shifts. "Because the nature of hospital medicine at MSKCC is so sub-specialized to begin with, someone coming straight out of residency is better served to be a nocturnist. They run the entire hospital overnight, from seven to seven, admitting all the overnight patients, getting oriented to the full breadth of what we do. Eventually, they'll focus on one or a few oncology groups," Dr. Egan said.

"For us, another key was finding people who were drawn to the palliative-medicine piece, which is a huge part of what we do. Within our group, we do ongoing seminars on palliative care, improving our communication skills and symptom management.

"A significant percentage of cancer patients who get admitted to MSKCC are probably in the last six months of their lives, even the ones who appear to be doing well," she said. A hospital admission often means something has gone wrong, and it can become almost a turning point in their cancer journey. "They're in the hospital because the current line of chemotherapy isn't working, or they have symptom problems related to the progression of their cancer. It's an opportunity to take a step back and take stock: Are we on the right track? Is it time to change direction?"

Other oncology hospitalists agree that palliative care is a large part of what they do, even with recent dramatic advances in cancer therapy leading to new cures. However, the hospitalist doesn't point patients down an end-of-life pathway without first consulting with their oncologists, many of whom have become increasingly skilled at transitioning their patients to hospice or end-of-life approaches when these become appropriate.

Day-to-day management

Darren Boyd, MD (@DrDarrenBoyd), hospitalist and medical director of the oncology service at Northwestern Memorial Hospital in Chicago, says Northwestern's cancer patients occupy about 100 beds spread across three floors of the 900-bed hospital. "Cancer patients come from our hospital's ER, from our outpatient clinics, and as transfers from smaller satellite hospitals. At the moment we have a mix of models, including a resident-staffed acute leukemia inpatient service, a nurse-practitioner-staffed stem cell transplant service, a physician-assistant-staffed malignant hematology service, and the solid organ tumor service, which is managed by the hospitalists."

Dr. Boyd

From Northwestern's hospitalist service, which includes about 100 hospitalists, three attendings are assigned to the oncology unit on any given day, he said. Each attending manages 12 patients, and they work one week on and one week off. "Just like general hospitalists, we're responsible for the day-to-day management of patients, but in this case, all have a known diagnosis of cancer. We perform the same tasks as any hospitalist: seeing patients, interacting with consultants, ordering tests," Dr. Boyd said. "Where I'd say we differ is in the closer, more frequent communication with the patient's oncologist throughout the stay."

Dr. Boyd remembers his oncology rotation when he was a medical resident as a busy one, caring for very sick acute leukemia patients whose conditions changed hour by hour. After residency, he remembers saying he'd give it a try to take

shifts on the oncology unit. "I got there and loved it. It was very interesting medicine, with what felt like a lot more emphasis on talking to patients. It also seemed meaningful. Perhaps in some small way, as an oncology hospitalist, I was able to ease some suffering."

Universally, people who do oncology medicine tend to be—if not more empathetic—at least more developed in their people skills, he said. "We get good at active listening, picking up on those little cues that may lead to larger goals-of-care conversations. You never know when things may change rapidly for our patients, so you must get good at it."

Team-based approach

At MD Anderson Cancer Center in Houston, hospital medicine is the largest inpatient service. The department includes physicians, advanced practice practitioners, pharmacists, and internal medicine residents—with two onco-hospitalist fellowships offering one or two years of advanced clinical and research training for internal medicine graduates who likely will go on to become academic onco-hospitalists. This is one of the country's more mature oncology hospitalist programs, with a focus on patient care, quality improvement, education, and research. During the COVID-19 pandemic, the onco-hospitalists also assumed COVID-19 care responsibility for all hospitalized cancer patients, coordinating care with multiple disciplines across the institution.

SHM Oncology Hospitalists SIG

SHM's Oncology Hospitalists Special Interest Group (SIG) debuted earlier this year. This SIG is for SHM members interested in pursuing oncology hospital medicine full-time, or just learning more about the field for importing into their general practices. Drs. Barbara Egan and Jensa Morris are the co-facilitators of the SIG. "I'd hope we can be a big tent for hospitalists and a source of information, support, and resources for each other as we grow this field," Dr. Egan said. ■

Josiah Halm, MD, has been an onco-hospitalist at MD Anderson for the past 15 years and currently is its interim chair of hospital medicine. "We take care of solid tumors but not leukemia, lymphoma, or other liquid tumors. Most of our patients have established relationships with oncologists, but some patients show up at our emergency room without one." Others may have been directed by their doctor to seek a second opinion or go to hospice or were given a suspicion of cancer. "Our job is to expedite the workup of admitted patients, establish the diagnosis, and coordinate appropriate disposition with our oncology or palliative care colleagues," he said.


Dr. Halm

"We cherish the team-based approach practiced at MD Anderson. There can be a whole group of specialists sitting in one room, talking about one patient, and this approach has translated to us. We also get involved in research, not necessarily clinical trials but health services research and quality improvement." Quality projects have addressed venous thromboembolisms, glycemic control, readmissions, discharge times, and patient experience.

The field of oncologic treatment is rapidly changing, Dr. Halm said. "Immunotherapy, targeted therapy, and T-cell therapy are now becoming the cornerstones of some cancer treatment. They often come with significant side effects and comorbidities, which has spawned a whole new area of learning in onco-medicine and hospitalist co-management."

Deeper relationships

Onco-hospitalists meet patients in a time of crisis, Dr. Egan said. "We quickly form deep and meaningful relationships because it is a crisis point and we are being asked to shepherd them through that. We also free up the oncologists to do what's most satisfying for them and most strategic for the institution. It allows us to make a place for ourselves, where we're valued for what we can do," she said.

"Patients expect us to be up to date on the most recent developments in cancer therapies. Our professional development emphasizes keeping up to date, and we also lean on our medical oncologist colleagues. We see patients on first-in-human studies, where they come in with medical problems that haven't even been reported yet."

In her role at MKSCC, Dr. Egan has also gotten involved with the work of improving end-of-life care for the entire institution. "We've partnered with our Patient and Family Advisory Council for Quality, which represents the patient and family's voice for a lot of initiatives here. They have recently stepped up to the plate in improving end-of-life care—as the number-one item on their agenda for the next two years," she said.

"What we've been learning from patients and families is that, yes, many do want to be part of cutting-edge, experimental therapies. But when that is no longer possible, they want the opportunity to have their voice heard and a say in what end-of-life care looks like for them. Those are not mutually exclusive goals."

Larry Beresford is an Oakland, Calif.-based freelance medical journalist, specialist in hospice and palliative care and long-time contributor to The Hospitalist. ■

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Clinical

What is the Best Approach to a Cavitary Lung Lesion?

An update of one of *The Hospitalist's* most-read articles[1]

By Charles Pizanis, MD, FHM, Riana Wurzburger, MD, MPH, Patrick A. Rendón, MD, and James T. Dean III, DO

Case

A 60-year-old man with alcohol use disorder presented to the hospital with fatigue, chest pain, and productive cough for two weeks. Additionally, he endorsed a 20-lb weight loss over the previous month which he attributed to a poor appetite. He lived in the southwestern U.S. and had no recent travel. His initial chest X-ray demonstrated a 3.4-cm left upper lobe cavitary lesion (Figure 1).

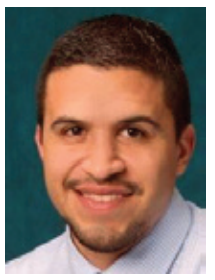
Overview

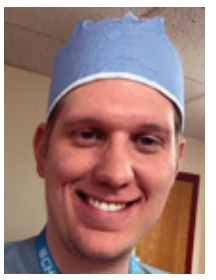
Hospitalists frequently encounter patients with cavitary lung lesions on chest imaging and are often faced with initiating their early workup and management. Having a strategy for the initial diagnostics and therapeutics as well as a plan for pre-consultation can assist in streamlining workup.[2] Additionally, hospitalists are frequently involved in establishing the initial surveillance strategy for cavitary lung lesions upon discharge, and developing a mental framework for follow-up can assist in optimizing the outpatient transition of care.

A cavitary lung lesion is defined radiographically as a lucent area contained within a consolidation, mass, or nodule. It is further characterized by thick walls of greater than 4 mm.[3,4] The differential for these lesions is broad and includes both infectious and non-infectious causes.


Dr. Pizanis


Dr. Wurzburger


Dr. Rendón


Dr. Dean

Dr. Pizanis is an associate professor and section chief in the division of hospital medicine at the University of New Mexico School of Medicine in Albuquerque, N.M. Dr. Wurzburger is an assistant professor and associate program director of internal medicine residency at the University of New Mexico School of Medicine in Albuquerque, N.M. Dr. Rendón is an academic hospitalist and associate professor in internal medicine at the University of New Mexico School of Medicine in Albuquerque, N.M. He is also the assistant clerkship director of the internal medicine clerkship, director of the cardiovascular, pulmonary, renal, and gastrointestinal curricula in the first two years of medical school, and co-director of the University of New Mexico School of Medicine phase I curriculum committee. Dr. Dean is an assistant professor in the division of pulmonary and critical care medicine at the University of New Mexico School of Medicine in Albuquerque, N.M.

Infectious causes

The organisms known to cause cavitary lung lesions are many and include bacteria, fungi, parasites, and viruses (Table 1). Principal among them for consideration, particularly from an infection-control standpoint, is *Mycobacterium tuberculosis.* Lung abscesses and necrotizing pneumonias, subsets of cavitary lung lesions, carry another unique spectrum of causative organisms. Anaerobic and microaerophilic streptococci (e.g., *Streptococcus milleri*) make up the majority of identified organisms, and polymicrobial infection is commonly encountered.[5,6] Other non-tuberculous mycobacterium such as *M. abscessus* and *M. avium* also cause cavitations. Notable aerobic organisms occasionally encountered include *Staphylococcus aureus* and *Klebsiella pneumoniae*.[6]

Fungi and parasites, while rarer than bacterial causes, require significantly different treatment regimens. *Aspergillus fumigatus* in its invasive form is known to occupy preexisting lung cavities and is identifiable by the presence of a fungal ball (aspergilloma) within the lung cavity.[7] Other endemic fungi (e.g., *Histoplasmosis capsulatum)* have been linked to cavitary lung lesion development.[8]

Lung cavitation in the setting of COVID-19 infection

Since the COVID-19 pandemic began, several cases of lung cavities in the setting of COVID-19 infection have been reported. In a single-center study reporting on the radiographic appearance and clinical outcomes of 689 hospitalized patients with COVID-19 pneumonia, 3.3% of patients developed lung cavitation. Cavity sizes ranged from 30 to 100 mm in diameter and were solitary or multiple. Bacterial and fungal coinfections were noted in some but not all patients. Notably, cavitations appeared on subsequent and not initial chest imaging in all patients, suggesting lesions represented a delayed complication of COVID-19 infection.[9] Mechanisms of cavitation are not fully known but autopsy data have suggested a mixture of thrombotic vascular occlusion accompanied by liquefying necrosis contributing to cavity development.[10] Lung cavitation in the setting of COVID-19 pneumonia appears to be a poor prognostic indicator, with death occurring in 50% of patients in the aforementioned case series.[9]

Non-infectious causes

Several non-infectious causes of lung cavitations exist and should be considered in the differential. These include malignant, rheumatologic, vascular, and infiltrative conditions. A principal consideration of a lung cavity is malignancy. Both primary lung cancers and metastatic cancers are known to cause cavitations, with cancers of squamous cell origin being the cell type most known to cavitate.[11] Several rheumatologic conditions have also been linked to lung cavitation. Granulomatosis with polyangiitis, rheumatoid arthritis, and sarcoidosis are all known to cause cavitation. Other less common causes of lung cavitation include pulmonary embolism (usually resulting from pulmonary infarction), Langerhans cell histiocytosis, and amyloidosis.[4]

Patient characteristics

A focused pulmonary history is essential in guiding the workup. Conditions such as substance use disorders, seizure disorders, or swallowing deficits put patients at risk for aspiration, which is the most common cause of pulmonary abscesses. Immunosuppression, particularly neutropenia or hematologic malignancies, greatly raises the likelihood of infections from fungi and atypical bacteria. Carcinogens such as tobacco smoke or occupational exposure increase the primary lung cancer risk. Finally, circumstances such as travel to endemic regions, homelessness, incarceration, or sick contacts increase the risk of atypical infections such as *Mycobacteria* or coccidioidomycosis.

Imaging characteristics

While establishing a diagnosis from radiographic findings alone is unlikely, certain imaging cues can narrow the differential. Apical lung lesions are more commonly seen with tuberculosis and primary lung cancer, while the lower lobes are more often involved in necrotic pneumonias, septic emboli, or metastatic disease. Multiple cavitary lesions are more common in autoimmune disease, atypical infections, or metastatic cancer, whereas solitary lesions are more common with primary lung cancer or lung abscesses. Cavity-wall thickness has also been proposed as an effective tool, with thicknesses greater than two cm highly associated with malignancy and benign lesions frequently having thin walls of less than seven mm. Lastly, findings such as associated consolidation or tree-in-bud nodules are more likely to be infectious, while a visible mass within a cavity is almost pathognomonic for an aspergilloma.

Initial diagnostics

Prior to infectious disease or pulmonary consultation, the hospitalist clinician should obtain several tests as part of the initial workup. Additional, more advanced testing may be ordered depending on the likelihood of certain diagnoses on the differential (see Table 2 for suggested pre-consultation evaluation).

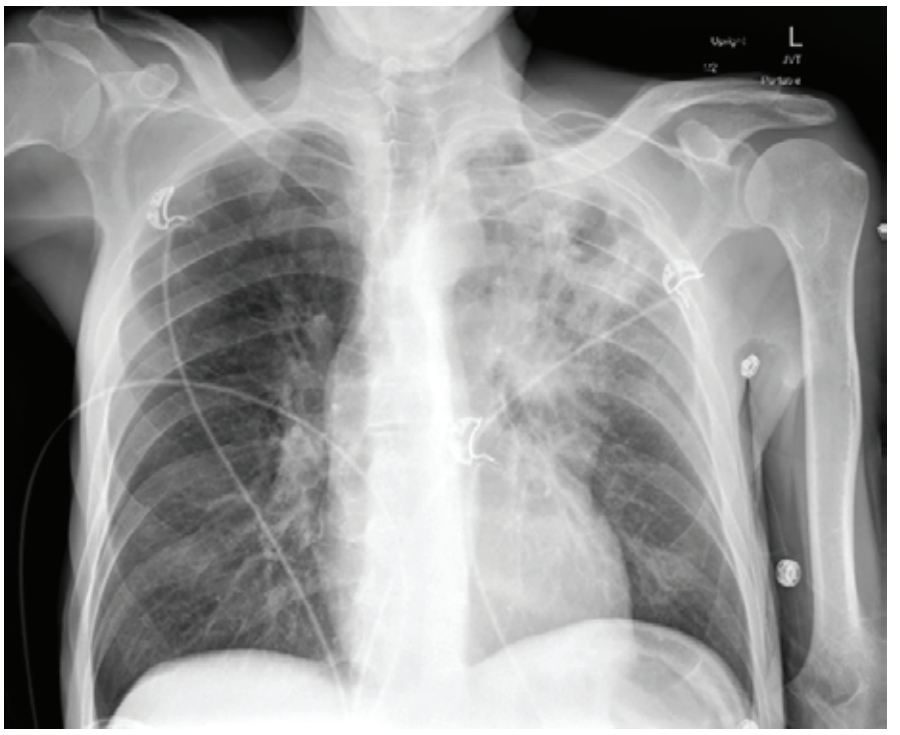


FIGURE 1: Chest X-ray of a hospitalized patient demonstrating a left upper lobe cavitary lung lesion.

Quiz:

A 66-year-old man with a history of smoking and cirrhosis who is experiencing homelessness presents to the emergency department with a productive cough and fever for one month. He has traveled around Arizona and New Mexico but has never left the country. His complete blood count is notable for a white blood cell count of 13,000. His chest X-ray reveals a 1.7-cm right upper lobe cavitary lung lesion. Which of the following is the best next step in management?

a. Chest CT with contrast
b. Image-guided biopsy of the lesion
c. Initiation of piperacillin-tazobactam
d. Obtain antinuclear antibody (ANA) testing
e. Sputum smear for acid-fast bacilli

Correct option: *Choice A.* Chest CT with contrast is the best next step in management; it will allow for the characterization of the cavitary lesion, including whether other masses or lung pathology are present within the lungs.

Choice B. An image-guided biopsy is typically obtained in cases of suspected neoplasm. Although this may be a reasonable diagnostic test later in the workup, it's not the best next step. If infectious, a biopsy could cause seeding of infection in other areas of the lung and would not significantly change management.

Choice C. Initiation of piperacillin-tazobactam may be prudent if the cavitary lung lesion is suspicious for bacterial infection, which is highly likely in this case. But a more appropriate antibiotic choice would be ampicillin-sulbactam given the low likelihood of a pseudomonal infection inducing the cavitary lung lesion.

Choice D. Ordering an ANA test may be reasonable in this instance although there is nothing specifically worrisome in the stem for an autoimmune etiology. If the patient had a malar rash (or other signs of lupus), this would increase the likelihood of an autoimmune cause. This patient likely has an infection.

Choice E. Sputum smear for acid-fast bacilli is a reasonable choice as it is important to rule out tuberculosis, especially given the history of experiencing homelessness. A chest CT, however, would be a more appropriate next step before an acid-fast bacilli smear is obtained.

Bronchoscopy or biopsy?

While often the etiology of a cavitary lesion can be determined through a focused history and non-invasive workup, certain

Table 1: Partial list of organisms associated with the development of cavitary lung lesions

BACTERIA*	FUNGI	PARASITES	VIRUSES
Streptococcus milleri *Streptococcus pneumoniae* *Staphylococcus aureus* *Haemophilus influenzae* *Klebsiella pneumoniae* *Pseudomonas aeruginosis* *Mycobacteria species* (both TB and non-TB) *Actinomyces species* *Bacteroides species* *Nocardia species* *Burkholderia pseudomallei* *Polymicrobial bacterial infection is common	*Aspergillus fumigatus* *Zycomycoses* (e.g., *Mucor, Rhizopus species*) *Histoplasmosis capsulatum* *Coccidiodes immitis* *Cryptococcus neoformans* *Blastomyces dermatidis* *Pneumocystis jirovecii*	*Entamoeba histolytica* *Echinococcus species*	SARS-CoV-2 (COVID-19) MERS-CoV (Middle East respiratory virus)

Table 2. Diagnostic workup of a cavitary lung lesion for pulmonary or infectious disease consultation

BASIC WORKUP PRIOR TO CONSULTATION	REASON FOR THE TEST: TO EVALUATE …
Complete blood count with differential	general infection or hematologic neoplasm
Contrast CT of the chest	lung parenchyma for other lesions or masses
Interferon-gamma release assay	tuberculosis
Acid-fast bacilli smear	tuberculosis
Rheumatoid factor	autoimmune disease
Antinuclear antibody	autoimmune disease
ESR and CRP	immune-mediated or autoimmune disease
Liver function tests	liver involvement (e.g., primary or metastatic cancer)
Arterial blood gas (if hypoxic)	severity of illness
Thyroid-stimulating hormone	hyper- or hypothyroidism
HIV screen	immunodeficiency
ADVANCED WORKUP FOR CONSIDERATION	**REASON FOR THE TEST: TO EVALUATE …**
Urinalysis	proteinuria or renal involvement (e.g., autoimmune disease)
Blastomyces antibodies	blastomycosis
Coccidioides antibody	*Coccidioides* infection
Histoplasma antibody and/or urine Histoplasma antigen	histoplasmosis
1,3 beta-D glucans	invasive fungal disease
Influenza PCR (during endemic months)	influenza
COVID-19 PCR	COVID-19 infection

entities require a more invasive workup with bronchoscopy or percutaneous biopsy. If malignancy is of primary concern, consultation with a pulmonologist should occur to help determine the feasibility of a bronchoscopic biopsy or if interventional radiology is required. Certain patients such as those with hematologic malignancies or immunosuppression are at higher risk for atypical infections and may benefit from earlier bronchoscopy to guide antimicrobial therapy.

What to do at hospital discharge

The frequency of surveillance imaging for cavitary lung lesions will vary based on the etiology. In the case of malignancy, it is determined by cell type, initial staging, and treatment plan. A common question for hospitalists, however, is what the appropriate follow-up and monitoring should be, specifically for lung abscesses. Patients should typically receive an empiric trial of antibiotics before more invasive measures are attempted, as approximately 90% will improve with antibiotic therapy alone.[12,13] Resolution on imaging may take several weeks or months and serial chest imaging should be obtained to monitor progress through the course of treatment.[1,6] A strategy for imaging can include a repeat CT four to six weeks into treatment with subsequent imaging depending on clinical and radiographic status.

Should a lung abscess fail to improve with conservative therapy in the expected timeframe (or if the patient demonstrates clinical deterioration), pulmonology consultation is warranted for further diagnostic workup, typically with bronchoscopy to obtain further culture data and look for obstruction.[13] Failure to improve despite an adequate trial with appropriate antibiotics may necessitate percutaneous drainage, endobronchial drainage, or, rarely, surgical resection. Depending on abscess location and local expertise, pulmonology, interventional radiology, and/or thoracic surgery consultations may be necessary to guide the next steps in management.[1]

Back to the case

After initial diagnostics, the patient was started on empiric antibiotics and discharged home with outpatient imaging follow-up. Subsequent chest imaging demonstrated resolution of cavitation and the cause was attributed to aspiration.

Bottom line

Hospitalists are central to driving the care for hospitalized patients with cavitary lung lesions found on imaging. ■

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Lessons from a Med-Psych Unit

By Erik M. Bobeda, MD

In 2019, I accepted a position at the University of Rochester's Strong Memorial Hospital in Rochester, N.Y. I knew this wouldn't be bread-and-butter hospital medicine, but rather a unique hospitalist role in inpatient medicine in psychiatry; a medical-psychiatric unit where the majority of patients carry diagnoses of serious and persistent mental illness (SPMI). It's a road less traveled, owing largely to the paucity of such units in U.S. hospitals.

The experience has been one of personal and professional growth. Like many internists, my primary exposure to patients with SPMI (major depression, bipolar disorders, schizophrenia, and borderline personality disorder) had occurred during the psychiatry clerkship in medical school, followed by sporadic encounters in residency, during which the mental-health diagnosis most often took a backseat to the acute medical problem.

Now, I spend my days surrounded by catatonia and clozapine; haloperidol and hallucinations; benztropine and benzodiazepines. The practice of providing medical care for people with psychiatric conditions simply wasn't part of my prior medical training, and thus I learned it on the job. Having now developed a level of comfort, and a better understanding of the patients and the practice, I seek to share some of the pearls I've gathered along the way.

One fact I didn't appreciate early in my training, but that has become much clearer as I've spent more time with psychiatrists, is the reality that people with psychotic disorders, even on optimal therapy and without positive symptoms of schizophrenia, are likely still to possess negative symptoms, often including a degree of paranoia and mistrust that can make providing medical care more challenging, even if they may not need acute psychiatric care.

It's worth noting this mistrust may arise as much from historically unfavorable interactions with the health care system as from psychopathology. This means building trust and forging a therapeutic partnership tends to require more time and effort than in the general population. Therefore, one of the benefits of operating a medical-psychiatric unit that endeavors to care for SPMI inpatients whenever possible is a level of continuity that for some patients and clinicians approaches what's found in primary care.

The approaches I've found most fruitful working with patients

Oliver Le Moal

with psychotic disorders are those that I already strive for with other patients, but benefit from greater emphasis—listening, meeting someone "where they are," respecting autonomy, and reducing unnecessary interventions. Understanding how, for instance, a schizophrenic patient sees and interacts with the world is very important if you are to reach them therapeutically. This requires patience and may not be accomplished in a single visit. Obtaining collateral information from family and other contacts is highly recommended.

Deftly setting the stage for interaction with the patient is beneficial; presenting as polite, respectful, and unhurried can put patients at ease. I usually knock or otherwise announce myself before entering the room (the response to this will often be your first clue as to how receptive a patient is likely to be), provide at least a warning if a light is to be switched on, and sit down if a chair is available.

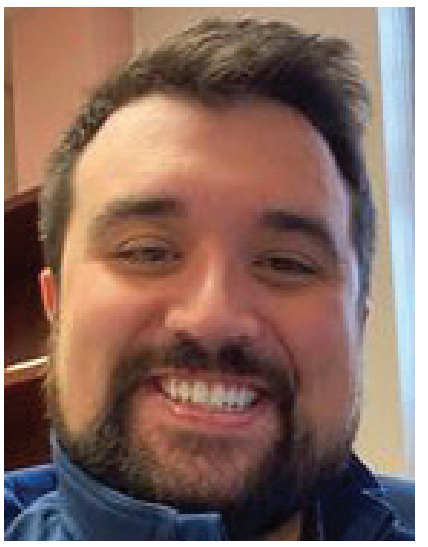
The building of trust starts early in the interaction; it's best to start open-ended and patient-centered (e.g., "How can I help you today?") without a hint of agenda. While many patients have priorities that differ from those of their physician, you may find that phenomenon to be particularly pronounced in this population. Addressing their chief concern will increase the likelihood that you'll be listened to later. You are likely to find that even if you're as patient-centered as possible, your patient may still decline medications and other interventions. In these cases, it is first crucial to understand why, as explanation and clarification may be effective.

If you find an interaction isn't productive, sometimes returning at another time is useful. Often, declining care can be a patient's means of communicating they're feeling overwhelmed and need more time to process. If so, being flexible and offering medications and interventions multiple times throughout the day can prove successful. Of course, this requires buy-in from nursing and other members of the team. I've found that flexibility and teamwork are assets. Can the timing of medication administration be relaxed? Is it feasible to reduce the pharmaceutical burden to discontinue that which is relatively less important? What is your Plan B? A secondary plan that can be adhered to is universally preferable to a primary plan that empirically cannot. Formulating this secondary plan, of course, may necessitate participation by consulting services and may benefit from direct physician-to-physician communication in higher-complexity cases.

While psychotic disorders often respond readily to medication, not all psychiatric disorders do the same; certainly, few diagnoses color our preconceptions quite as vividly as borderline personality disorder. Marked by emotional volatility and instability of relationships, such patients may have a history of difficult interactions with health care professionals.

It's important to exercise insight into your own biases and emotional responses before you even set foot in the room; countertransference (transferring your emotions to the patient) will be the physician's undoing. Clarity and consistency of communication and expectations are essential. This applies to patient interactions as well as to handoffs to other team members. Further, to mitigate the possibility of splitting (viewing individuals exclusively positively or negatively), rounding as a team is advisable (e.g., attending physician, advanced practice practitioner or resident, and bedside nurse) whenever practical.

The clinician needs to understand that while the behavior of a patient with borderline personality disorder may feel manipulative or vindictive, its motivation doesn't generally rise to conscious awareness. Being aware that an observer's perception of the patient's actions is often not congruent with the patient's intention can be a powerful tool in managing your emotional response to the interaction, and, indeed, a dispassionate approach will prove most efficacious and therapeutic for all parties.



Dr. Bobeda

Dr. Bobeda is an assistant professor of psychiatry and medicine at the University of Rochester in Rochester, N.Y., and practices hospital medicine within the department of psychiatry, division of medicine in psychiatry services at Strong Memorial Hospital in Rochester, N.Y.

All that being said, there will be times when a patient's behavioral dysregulation will render an encounter unproductive or even counterproductive. In these instances, it's necessary to set boundaries and terminate the encounter. The clinician can then return later when the patient is calm and amenable to continue the conversation.

In caring for patients with SPMI, it's natural for the clinician to experience discomfort or disorientation. You may be tempted to attribute these sensations primarily to the patient. On the contrary, I've found these interactions have been ruthlessly revealing of growth opportunities in my own practice style; much of the discomfort is internally attributable. Bedside manner, patient-centeredness, and clear and consistent communication with patients, family, and other health care team members are less desirable than they are absolutely essential in this setting. I owe my patients a debt of gratitude for having shaped me into a better physician. I am privileged to have gained as much as I have given. ■

Immigrant Hospitalists Share Struggles and Discuss Paths to Progress

By Thomas R. Collins

Harkesh Arora, MD, a hospitalist at Lovelace Medical Group in Albuquerque, N.M., said she has grown sad and frustrated by her long—and, so far, futile—effort to obtain an EB-1A, an employment-based visa for those demonstrating extraordinary ability in their field.

Out of the 140,000 employment-based visa petitions allotted each year, 7% is the maximum any country can get. Because of that, applicants from India must wait even longer due to the staggering number of applications received each year by U.S. Citizenship and Immigration Services.

Dr. Arora

Dr. Arora and others recounted their struggles in a session at SHM Converge earlier this year, in which U.S. hospitalists from other countries talked about their experiences, and representatives from SHM discussed efforts to make federal policy changes that would benefit both immigrant hospitalists and the patients for whom they care.

On top of the waitlist, Dr. Arora said, although U.S. Citizenship and Immigration Services has digitized its application process to speed up the process, it also significantly increased the length of its forms, which counterintuitively made the review process more complex and tedious. Dr. Arora has worked in the U.S. on a work visa for 18 years and has lived in limbo with her family since 2005.

"I am tired and feel disheartened and helpless," Dr. Arora said. "We need letters; we need letters of support." For her EB-1A application to carry more weight and to be taken more seriously, she explained, she desperately needs letters of support from physicians outside the Indian diaspora.

She said she wishes she were from some other country.

"My country doesn't want me back because they think I belong here since it's been so long, and this country hasn't accepted me as its own," she said. "I feel literally abandoned and worry for my family with each breath. I'm just coming to the end of my rope." After her remarks and the session ended, attendees approached her to offer support.

Many immigrant physicians currently live and work in the U.S. on temporary visas (J-1, H1-B) while waiting for a permanent visa to become available. Some remain in temporary status for many years, if not decades, because of the caps applied to their country of nationality.

Session presenters shared some statistics. A 2021 report by the Association of American Medical Colleges, shows the U.S. will likely see a shortage of between 37,800 and 124,000 physicians by 2034, including shortfalls in both primary and specialty care.[1] In 2021, approximately one in five active U.S. physicians were born and attended medical school outside the U.S. or Canada, totaling more than 203,500 physicians.[2]

During the COVID-19 pandemic, 16.4% of health care workers were immigrants.[3]

"They served a lot, but immigrant hospitalists—many of them had ineligibility for Medicaid or social security benefits," said Benji

Wasan Studio

Mathews, MD, MBA, SFHM, department chair of hospital medicine at Regions Hospital, HealthPartners in St. Paul, Minn. Needing to work to remain in the U.S., there was a risk of deportation if an immigrant physician fell ill, he said. "That was a fear that many of our immigrant hospitalists lived through."

Dr. Mathews

Dr. Mathews recalled his move from the Middle East to Minnesota around his teenage years, and the challenges he experienced because English wasn't his first language. He remembers constantly feeling like "the other" and has regularly experienced the common phenomenon of "perpetual foreigner syndrome."

Patients, he said, often ask "Where are you from?" which is often a harmless question, but one that is deeply personal and intimate. Some patients, he said, enjoy sharing about their sense of belonging, while others often quietly question it.

Dr. Mathews said he hopes to continue to serve and lead with SHM to provide spaces for immigrant hospitalists to share their stories and engage in advocacy.

Manpreet Malik, MD, SFHM, associate professor at Emory University School of Medicine in Atlanta, and a native of northern India said that in 2013 when he acquired an employment-based visa and applied for a green card, the U.S. was processing green card applications it had received in 2008. By 2019, when he switched jobs and went to Emory, it was processing applications received in 2009—so, over the course of six years, one year of progress had been made.

Dr. Malik

In 2022, he received his Employment Authorization Document, which allows him to work legally, and travel freely but still offers fewer privileges than a green card.

When he recently landed back in the U.S. from a global health trip, he remembers thinking, "I'm home." And then the first line he needed to get into as he passed through immigration at the airport was the "foreign visitor line."

"That was a big reality check," Dr. Malik said.

For those on visas, life is full of headaches and limitations that others don't have to live with, he said: Having to renew driver's licenses whenever a visa needs to be renewed; difficulties obtaining loans; buying homes; and complexities with working independently.

The situation seems fundamentally unjust, he suggested.

"We have colleagues around the country who came in on visas, legally, and have been contributing to our community for a very, very long time," he said. "We have to fix this!"

Rachel Thompson, MD, MPH, SFHM, immediate past president of SHM and chief medical officer at Snoqualmie Valley Hospital in Snoqualmie, Wash., said that she used to have an "everything will work out" mindset regarding immigration issues. A kind of wake-up call came when she tried to recruit physicians to the hospital medicine department for a former employer and was told, "We don't do visas," so she had to reject someone with a stellar resume. That physician went on to be a great addition to another university that did welcome physicians on visas.

Dr. Thompson

Since then, she said she has been proud to be a part of SHM as the organization has promoted a diverse workforce that attempts to ease the hurdles faced by immigrant medical graduates. She pointed to SHM's diversity and inclusion statement that says, "Diversity is a strength."

"This is our workforce," she said. "They're here serving our communities, our people, and we shouldn't be thinking about who is from where."

Josh Boswell, JD, chief legal officer for SHM, said the focus of the U.S. health care system and the U.S. government should be on qualifications.

Mr. Boswell

"Why? Because we need them here."

SHM is working for legislation that would remove the per-country cap and make other changes to ease the application process and protect children from aging out of dependent status at age 21. Dr. Thompson said that while the legislation is supported in concept by both Democrats and Republicans, Democrats want more widespread reform, not piecemeal, and Republicans resist any reform until issues at the border are resolved.

"A lot of the holdup is really around this idea of upending the system," Mr. Boswell said, "That's where a lot of the pushback from other organizations comes from. You just keep at it." ■

Tom Collins is a medical writer in South Florida.

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The Promotion Application Journey

Tips from a recently promoted professor

By Avital O'Glasser, MD, FACP, SFHM

Earlier this year, I was thrilled and honored to learn that my application for promotion to a full professor of medicine was approved. Any promotion in academic medicine is an accomplishment, and the broader context of my promotion made the milestone all the more special—I was days away from turning 42, mother to two school-aged children, and three years into a global pandemic, and I had an application packet heavy in non-traditional and digital scholarship, including advocacy work.

In the spirit of paying it forward, I shared my reflection on the promotion-application journey and how I articulated my non-traditional scholarship in my application packet in a Tweetorial (https://twitter.com/aoglasser/status/1677078933421043712), and now this article.

Global tips

The promotion journey, both the application process itself and the years of professional development and accomplishments leading up to it, can be lonely and stressful. Having a deep bench of mentors, sponsors, allies, and coaches was essential for me in the years leading up to the promotion and the application process itself. Having peer mentors and friends going through the process simultaneously was also invaluable for having logistical and emotional support. These types of relationships should be sought and nurtured regardless of one's promotion plans or timeline. Having long-standing relationships cemented before I began my promotion journey also gave me a very solid foundation of tangible and intangible support. Find allies and thought leaders at your institution who are challenging the dogma of academia and advocating for new evaluation paradigms.

Being aware of and using institution-level resources is essential. Every institution has different criteria and processes for promotion. Familiarize yourself proactively with local criteria as well as faculty development options (even three or four years before you think you might apply for promotion). This will empower you to continue to channel your passions and energy to have impact and reach, and to learn how to articulate that on your curriculum vitae (CV) and professional dossier.

Become as well versed as possible in the core information about gender and racial inequities in the promotion-and-tenure space and other facets of professional development. The promotion space is fraught with imposter syndrome. Knowing the systematic challenges that women and other vulnerable groups in medicine face can empower conversations about your impact and reach with stakeholders and mentors. Know the information about the harms of leaky pipelines—a metaphor for the way women become underrepresented minorities (especially in STEM fields). Know that women do not apply for jobs or promotions until they think they are more than 100% qualified. Know the data about how women submitted fewer publications during the pandemic and how women are viewed less favorably in medicine (CV ratings, future citations, lower Altmetric scores) just by having a feminine-sounding name.

Familiarize yourself with the promotion landscape hospitalists face. Hospital medicine is still a relatively young internal medicine subspecialty, with small numbers of hospitalists who have reached the full professor level. Traditional research and peer-reviewed scholarship are not the only ways to have scholarly impact as a hospitalist, and the last three years of the pandemic have solidified hospitalists' context expertise within health care systems, leadership, and service. Be prepared to think outside the box by measuring and articulating your academic contributions as a hospitalist and ensure you have mentorship and faculty-development support to do so.

Finally, be aware of the cutting-edge work being done to define and articulate the inherent worth of digital scholarship, social media-based scholarship, and advocacy, including Ernest Boyer's concept of "scholarship of engagement." [1] Ask yourself where your passions, interests, and accomplishments mesh with these non-traditional ways of having impact. Build off these definitions to assess and articulate your accomplishments.

Macro-technical tips

While the promotion application can feel like a static, discrete process, I think it's better viewed as part of an ongoing continuum of professional development and assessments. The biggest piece of advice I can give in that regard is to keep your CV, professional dossier, and educator's portfolio updated. That might feel easier said than done with large workload volumes and bandwidth constraints that typify medical careers in the 2020s, but I assure you proactive CV maintenance will reap benefits, including time management and efficient data collection. I moved my CV and professional-dossier documents to the cloud several years ago and can update my CV from multiple devices. I add publications, talks, and other accomplishments to my CV as close to in real-time as possible to avoid the challenges of recall.

Make your professional dossier living, breathing documents as much as possible. Using cloud-based documents also creates the opportunity to leverage electronic documents in your professional dossier. Empower any reader of your CV and professional dossier to read between the lines of the line items entered there. I include hyperlinks to everything from peer-reviewed and non-peer-reviewed publications to podcasts, blogs or op-eds, social-media-based teaching, and social-media-based advocacy, as well as metrics of impact and reach, such as Altmetric scores or media coverage of my research.

In addition to curating your CV and other components of the professional dossier, I highly recommend having a professional development or accomplishment rainy-day folder. Akin to the folder of thank-you cards from patients or trainees, at the very least a rainy-day folder (e.g., screengrabs of positive feedback) can be the boost you need on a tough day. Additionally, it serves as a central repository for demonstrative feedback about your professional impact and reach, which is exactly what you need to supply in a promotion application. The rainy-day folder is also a great location to store and save the "I did this but don't know how or where to put it on my CV" items.

Micro-technical tips

Eventually, your evaluation for promotion (or other opportunities such as a new position or award) will depend not only on your list of accomplishments but also on the impact and trajectory of your work, passions, and energies. No one will be in a better position to articulate your trajectory and momentum than YOU! No one will be in a better position to articulate the challenges you've overcome and the difference you've made than YOU! The personal statement or cover letter is how to bring all the foundational tips I've shared thus far into the most impactful narrative of *you* as a clinician as possible.

Dr. O'Glasser

Dr. O'Glasser (@aoglasser) is a professor of medicine, division of hospital medicine, and medical director of the pre-op clinic at Oregon Health & Science University in Portland, Ore.

For my promotion application, I had five pages maximum to tell my readers things that perhaps only I knew about my impact and trajectory. I used part of that valuable real estate to briefly highlight the data regarding pandemic-related gender inequities and non-promotable activities, the definition of digital scholarship, and the concept of the scholarship of engagement. I hope everyone has the psychologically safe space to call out the disruptions their professional trajectories have faced in recent years.

Remember that rainy daily folder? Review it and incorporate the highest-yield elements of feedback and proof of impact as much as possible. In addition to traditional evaluations (e.g., teaching evaluations, and CME lecture feedback), many means of feedback might occur via social media. I embedded select Twitter-based forms of feedback directly into my personal statement.

Any process that uses the professional dossier—job applications, annual reviews, award nominations, and promotion—is stressful. Find a way to talk about your work and your impact in a way that feels best and of the highest yield to you. Building on a foundation of mentorship relationships, I hope you feel empowered to fold traditional and non-traditional frameworks into any process that requires you to articulate your impact and reach as a hospitalist. ■

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SIG Spotlight: Academic Leaders

By Richard Quinn

Every academic hospital medicine leader has two bosses: one on the academic side, through the school of medicine, and one on the hospital side, often reporting to someone in the C-suite, given its financial support of the program. Unfortunately, the priorities of the two bosses aren't always aligned.

So how to best navigate multiple masters? How to learn how best to satisfy clinical, educational, and scholarly activities?

Well, clearly by joining SHM's Academic Leaders Special Interest Group (SIG).

"Everyone is doing innovation in their own small silos or niche areas, and we just wanted to create a network where we are all talking to each other, bringing out the problems, solving as a group," said SIG chair Romil Chadha, MD, MPH, MBA, SFHM.

Dr. Chadha

"Whether we're initiating a non-resident service, or justifying our subsidies to a hospital when they come into question, APP structure, leadership structure, or having residency challenges and needing to redesign the resident teams, what we've found is a lack of a centralized forum for people to learn from each other," said vice chair Kendall Rogers, MD, CPE, SFHM. "We really saw the need for having academic leaders to have this forum to discuss these complex issues."

Dr. Rogers

Drs. Chadha and Rogers see the SIG as a repository of "social proofing," where hospitalists and others associated with hospital medicine can learn novel solutions to problems they are facing, or just be validated by learning that their solutions have worked elsewhere. Dr. Chadha, chief medical information officer of the University of Kentucky Healthcare in Lexington, Ky. and prior chief of its division of hospital medicine said, "No one has found all the solutions, and that's why we are here to work together to advance our specialty".

"Similar to other programs, my institution values when I can refer to other institutions who have proven a certain way of doing things," said Dr. Rogers, chief of the division of hospital medicine and professor at the University of New Mexico Health Sciences Center in Albuquerque, N.M. "Even if it's the same thing that I've been advocating for, showing examples from other respected institutions, approaching a certain problem a certain way gives that external authority to help with local negotiations."

"For a lot of us, we don't even realize the problems we've already solved," Dr. Rogers said. "It's only when we hear someone else struggling with something that we realize a strength we have at our local environment, some process, some staffing aspect that we've already solved and now take for granted. So, we all have something we can learn from each other because we're at different stages and settings."

Dr. Rogers has hoped for years to develop a peer-mentoring program. That initiative—which he hopes will generate grassroots support—could include traveling to sites where national leaders work, or paying for them to travel to other institutions.

"It's my hope to figure out a way to create a peer-exchange program where a new division or section chief can have a more experienced leader come in and visit their program and offer direct advice and mentorship," he said. "There's only so much you can do through Zoom or someone reporting to you what their program's like. I've found seeing things first-hand is a whole exponentially higher in the content delivery and the information exchange that can occur. In addition, I have found that the person visiting gains as much from the experience as they deliver."

Dr. Chadha wants as many high-level leaders in the SIG as possible, but he doesn't draw the membership line at senior staffers only. "We do view it as a must for the academic division chiefs and it is strongly encouraged for next-reporting lines," he said. "Everyone who reports to the division chief should be there. But, at the same time, I didn't know what hospital medicine would be like unless I saw some mentors or looked at it closely.

"A medical student goes through many experiences before they decide what they want to practice. So, similarly, it is a good opportunity for people to see what working as a division chief or academic leader at an academic center for hospital medicine would look like. If you like it, you stay. If you don't like it, you move on."

Drs. Chadha and Rogers also note that for early-career physicians and others, joining the Academic Leaders SIG could be their first chance to step back from their daily work to see how pieces work more systematically.

"This may be one of the first times when people start to see how metrics or an organization works, where there are dotted lines and many people are different," Dr. Chadha said. "That's when reading the room, the art of negotiation, bringing the common interests together, how can that happen, all those things become extremely important...they can create these connections, they can find those mentors, they can learn from the repository and conversations. We hope more leaders join this resource, as we have so much to learn from each other." ■

Richard Quinn is a freelance writer in New Jersey.

Chapter Spotlight: Central and Southwest Virginia

The debut of a new SHM chapter

By Richard Quinn

Shyam Odeti, MD, MS, FAAFP, MBA, SFHM, was in Johnson City, Tenn., five years or so ago when he helped start up an SHM chapter in the Blue Ridge Mountains of Tennessee and Virginia.

He recalls the hours it took to recruit executive board members and the effort it took to wrangle and schedule event speakers. He knows all too well the time it takes away from other things, and the support it requires from so many for it to be a success.


Dr. Odeti

So of course, he helped start up another one.

And that's how the Central and Southwest Virginia Chapter started this year.

"Proximity is important," said Dr. Odeti, section chief of Carilion Clinic in Roanoke, Va. "It has to be local enough that people can socialize. I cannot join the chapter in, say, Norfolk or Northern Virginia, or a chapter in Maryland or Tennessee. The focus is on forming a local community that allows face-to-face interactions, fosters connections, and facilitates gatherings amidst the busy schedules of hospitalist work."

Dr. Odeti, an ardent advocate of the value of communal professional development and networking, views chapter gatherings less as work and more as a meet-up.

"It's akin to reconnecting with a high-school friend," he said. "You discover a plethora of shared interests and challenges. We aim to establish a chapter that provides a platform for sharing these common experiences, finding collective solutions, and fostering camaraderie through mutual understanding and support."

As in many states with large swaths of rural areas, Central and Southwest Virginia have unique traits, but they also share socioeconomic problems and geographies peppered with mountains and valleys.

To Dr. Odeti, commonalities always outweigh differences.

Take payer mix, for example. Dr. Odeti says that across Virginia, about two-thirds of the population has private insurance, which usually indicates a much more affluent community, with good resources and also better reimbursement for hospitals.

"But, when you come to Central and Southwest Virginia, it's opposite," Dr. Odeti said. "About 65% of our patients have Medicare and Medicaid, and less than 40% have private insurance. Again, it speaks to the similarities of socioeconomic status of this region, the disparity with other regions of the state, and the distinct challenges we are dealing with."


Members of the newly created Central and Southwest Virginia Chapter.

Dr. Odeti wants the chapter to grow quickly, but organically. He's hoping to have at least one quarterly event and to rotate events between different geographic regions to facilitate local member engagement and provide a virtual option for others who can't travel. He's hopeful to tailor educational topics to those suggested by members— as the key to a successful chapter is engaged rank-and-file, not an enthusiastic chapter founder.

"What will keep them engaged is the value SHM and this chapter brings them and what happens at these meetings," he said. "It's fun, just like meeting your high-school friends or extended family, because you find a community when you come to these meetings. You learn from one another, and you will be able to take something back to where you work and improve the care for the patients you serve. With personal engagement, members will have opportunities for professional and leadership growth."

One advantage of starting a chapter from scratch is that it makes it easier to pitch membership to anyone in the hospital medicine sphere, not only front-line doctors. That's a little easier in a region with four medical schools.

"We have a breeding ground of future hospitalists," Dr. Odeti said. "We have multiple physician assistant and nurse practitioner schools in the area, and we plan to invite them. Same thing with the residency programs. The ultimate goal is to welcome all individuals associated with hospital medicine, both clinically and non-clinically, whether currently involved or aspiring to join this field in the future."

Dr. Odeti says he realizes that starting a chapter in a post-COVID-19 world could seem to some to be ill-timed. He flips that perspective and thinks of it as starting an in-person group at a time when hospitalists—and society at large—realize the value of face-to-face interactions.

"The first meeting we had was on July 21," Dr. Odeti said. "And we had about 50 attendees turn out. And we had members joining from Charlottesville, which is about a two-and-a-half-hour drive. We also had hospitalists from Augusta, Blacksburg, and Radford, driving from a good distance to attend the evening meeting, and it was a great gathering. Everybody loved it. And Eric Howell was part of it, the CEO of SHM.

"Even though people work in different organizations, it feels like you are part of a larger family. We saw attendees sharing ideas about starting a new hospitalist fellowship program, hot to recruit. In some discussions, we might not have found solutions, but at least learned we are not alone."

At the chapter's inaugural meeting, several seasoned hospitalists from community hospitals met folks they've transferred patients to for years.

"They never had the opportunity to collaborate or see people face-to-face," Dr. Odeti said. "Hospitalists were thanking their counterparts for taking care of patients, but they never had the chance to interact or mingle. I see a bright future for this chapter." ■

Richard Quinn is a freelance writer in New Jersey.

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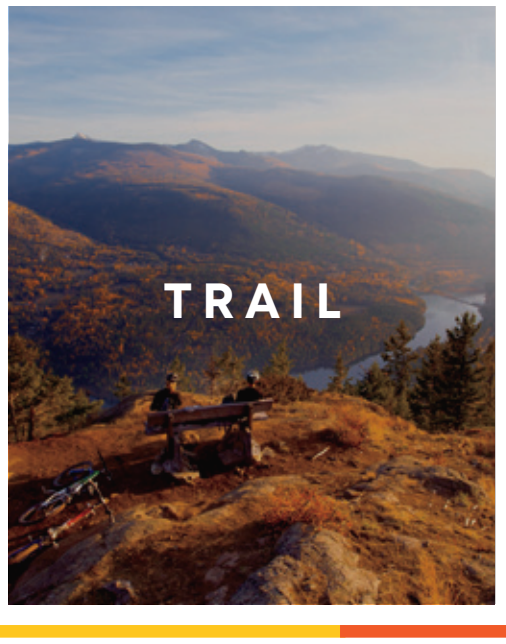

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