Teaming up: how one site is managing its complex liver cases

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May 2018—It didn't take long for Heather Stevenson-Lerner, MD, PhD, to grasp one key fact about the liver biopsy cases she was seeing at the University of Texas Medical Branch, Galveston: They were often complicated.

UTMB sees plenty of challenging liver cases of its own, says Dr. Stevenson-Lerner, assistant professor of medicine and liver and transplantation pathologist, Department of Pathology. "Those are our patients on a daily basis." Add to that the consults arriving from other hospitals in the Houston area, and it quickly became clear that she and her colleagues are in the thick of things every day.

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Fortunately, it also didn't take long to figure out how to simplify the handling of these cases. With the encouragement of Michael Laposata, MD, PhD, who chairs the pathology department, Dr. Stevenson-Lerner began to explore using a diagnostic management team for liver disease, shortly after she and Dr. Laposata both started at UTMB. "I've been thinking about DMTs for two years," Dr. Stevenson-Lerner says.

In a presentation at the second Diagnostic Management Team Conference, held in Galveston in early February, and in a follow-up interview with CAP TODAY, she explained how the DMT has helped transform liver anatomic pathology at her institution. At the heart of the DMT lies the premise that for complex cases, "It really takes a team to come up with the right diagnosis," she says.

But not just any team. Dr. Laposata, who pioneered the approach, defines a DMT as one that occurs frequently and regularly, much like a political scandal, with patient-specific reports provided even when there's no request for an interpretation. Moreover, the pathology report must 1) be delivered before or during the time when treatment decisions are made, 2) consider clinical context and synthesize diagnostic test results, and 3) be entered into the patient's medical record.

"That's the formal definition," Dr. Stevenson-Lerner says. But like etiquette, it tends to work best when adapting to the circumstances at hand. "There is the informal one that you kind of learn as you go along," she says. Liver DMTs

have unique considerations of their own, which required Dr. Stevenson-Lerner to do a little off-roading, away from earlier-established DMTs that focused on clinical pathology testing.

That included one of Dr. Laposata's areas of expertise, coagulation. When a highly complicated coagulation test is ordered, under the DMT approach the order appears in the hematology or coagulation lab as a complex test, Dr. Stevenson-Lerner explains. That, in turn, flags the pathologist to review the case in the coagulation DMT conference.

For liver DMTs, "Things do need to be a little bit modified," Dr. Stevenson-Lerner says. In anatomic pathology, "Oftentimes we've already signed out the liver biopsies—and then there's something that makes clear that this is a very complicated case that needs further evaluation. So that first rule—that you need to report it without a request or requirement for an interpretation—does not really hold true for an anatomic pathology DMT. It's not being done at the time of the laboratory test; it's being added onto a case that's already been reported."

The ultimate goal of the DMT is to improve patient care. But Dr. Stevenson-Lerner sees additional value in the DMTs for pathologists specifically. "It gets you into the room where you get to meet face to face with the people who are reading your reports."

It's almost impossible to underestimate the value of this, she continues. No matter how clear pathologists think their liver biopsy reports are, clinicians will invariably have questions. They may not always ask them, either. Dr. Stevenson-Lerner says she sometimes sees clinical colleagues act as if they fully understand a report when, in fact, they don't.

She's quick to add that it's not a failure on the clinicians' part. Talking about topics such as Mallory's hyaline on liver biopsy or antibody-mediated rejection in a liver allograft may be second nature for her, but "Some of these concepts are really new," she says. With the bracing impact of Sweden's sunshine law, a DMT can bring all the information to light for everyone to see and discuss. For pathologists, she says, "This conference has been extremely good at clarifying what you mean. And by educating your clinicians and making sure they understand your reports, you're helping the patient."

To further nurture those relationships, she persuaded her colleagues on the hepatology faculty to make DMT attendance mandatory for GI and hepatology fellows. She does the same for her surgical pathology residents and fellows.

She also designates two transplant hepatologists as leaders alongside her. "All our names are on there. It's right there on the sign-in sheet. I'm the one showing the biopsies, but two other people who are not pathologists are helping to lead the conference." That helps create the needed team atmosphere, she says.

Surgeon colleagues sometimes have a tough time fitting the DMTs into their schedules, she says, although her hepatologist colleagues attend religiously. "We even have a hepatologist who's somewhat of an emeritus status who taught me as a medical student, and is now basically retired, Dr. Roger Soloway, and this is one of the only conferences he comes back on campus for.

"If you lead a good conference and are enthusiastic about what you are doing, you will have good attendance and people will want to attend," she continues. "This is a meeting of a lot of great minds."

Enthusiasm at UTMB was high from the start. The DMT began as a liver pathology review conference, Dr. Stevenson-Lerner recalls, which gained momentum over the first year. As the transplant center grew, so did the complexity of the cases. And when Dr. Laposata happened to inquire about the review conference, "he realized it was basically very close to being a DMT, with the exception that the order was not being placed in Epic." Dr. Stevenson-Lerner was even writing notes based on the conference, attaching them as an addendum to the pathology reports. "So I was already doing almost everything" required of a DMT.

After Dr. Laposata attended a review conference and explained the DMT concept, "Everyone was on board

immediately," Dr. Stevenson-Lerner says. "They all agreed it was almost like a DMT as it was. And now people are very much an advocate for DMTs."

Like the best major league hitters, Dr. Stevenson-Lerner soon discovered the key to success was making adjustments. For example, Dr. Laposata's blueprint for a DMT, at least as it related to coagulation, calls for rigid criteria for case selection, based on what tests have been ordered. "You can't pick and choose," Dr. Stevenson-Lerner says.

That wouldn't work for liver disease. Not every case needs to be reviewed, nor could it. "I think we should save [DMTs] for our more complicated cases." Complexity, admittedly, can be defined broadly, particularly since reports include subjective elements. Dr. Stevenson-Lerner opts for pragmatism: "If you sign out your report, and it makes the clinician think twice, that would be a good time to review the case."

Anyone can decide that a case is complex, she says, including the primary care team, a resident, or a fellow, and that it might benefit from a little extra time and attention, as well as a team weighing in on the diagnosis and treatment. The key, she says, is that the DMT needs to affect treatment decisions. For those who practice liver pathology, "you absolutely have to look over the entire clinical record."

She offers an example from UTMB: a 32-year-old Caucasian female who presented to the hepatology clinic for evaluation of her viral hepatitis C. Labs included:

- HCV genotype: 3
- viral load: 122,566 IU/mL
- SMA (F-actin) (0–19 units): 50
- IgG (636–1600 mg/dL): 1710
- ANA (<1:20): 1:20
- ALT (9–50 U/L): 240
- AST (13–40 U/L): 126

A liver biopsy showed features of autoimmune hepatitis as well as HCV. So, asks Dr. Stevenson-Lerner, which disease needs to be treated?

Everything, including clinical features, pointed to autoimmune hepatitis. "Except for the caveat that she is HCV positive," she says, adding, "I can tell you, about half the team was ready to go ahead and start immune suppressive treatment." Yet Dr. Stevenson-Lerner urges caution, especially since the standard treatment in such cases would involve steroids—not a wise approach for someone with active viral infection.

"A liver biopsy can still look like HCV even after a patient has been treated for the virus," says Dr. Stevenson-Lerner. "But if I look at that viral load and it's negative, if you were that patient, would you want that report to say viral hepatitis C? I wouldn't. You just told me you cured me of it, and now my report says HCV. So we have to put the whole picture together. Think about the patient. Think about what you would want when you are thinking about the report." If added incentive is needed, she also notes that many reports will end up in a format like MyChart, where they'll be seen by patients.

Once a case like this is identified as complex, the AP DMT consult order is placed in the medical record (Epic Beaker, in the case of UTMB). The patient must have a recent—within seven days—clinical encounter or be an inpatient. If not, a new encounter must be scheduled to ensure ordering and billing. The pathologists will see the DMT order in the pending case list until the DMT note is written and the addendum signed out.

The liver biopsy is digitally scanned (at UTMB, it's done using Aperio ImageScope), and the whole slide can be reviewed during the DMT meeting. "A picture is worth a thousand words to our clinicians," she says. "They see

exactly what I'm seeing under the microscope. They can home in on specific areas."

In addition to reviewing clinical history, labs, imaging, and biopsy, the team will discuss any further studies that might be needed to make the diagnosis, as well as the treatment plan and follow-up.

Dr. Stevenson-Lerner finds that last item on the list especially satisfying. Patients typically return to the clinic within three months, which lets pathologists know if the diagnosis was indeed correct. "If I diagnose someone with autoimmune hepatitis, and I look back in three months and those enzymes are not down, those transaminases are not down, I did something wrong," she says. "I need to revisit the case and figure out what the problem is." While patients benefit the most from a correct diagnosis, obviously, it's rewarding for pathologists too, she says. Moreover, it's an excellent way for residents to learn.

The DMT team often has a librarian present at the meetings to help provide references. In this particular case, the librarian uncovered only one other case with similar findings. In that instance, the patient was first treated for HCV, after which everything normalized.

The DMT decided to treat using a combined antiviral therapy (sofosbuvir-velpatasvir). At the follow-up visit three months later, the viral load was insignificant and both the ALT (now 23 U/L) and AST (25 U/L) had dropped to within normal ranges.

"Just treating her HCV with a new, direct-acting antiretroviral therapy resolved all the features of autoimmune hepatitis and saved this patient a course of immune suppression," Dr. Stevenson-Lerner says.

She continues to make adjustments to the DMT approach. Sometimes she will send an email to a clinician close to the time of the next scheduled meeting, suggesting that they have a case that might benefit from more discussion. "And 99 percent of the time, they'll get back to me and say, 'Oh, yes, you're right. I was meaning to put the order in.'" No one seems to mind the nudge. "If I suggest a case is complicated, no one has ever said, 'No it's not,'" she says with a laugh.

As another courtesy, she'll briefly remind clinicians about their patients a day or two prior to the DMT meeting. "My assistant will help me send out an email of the cases that are going to be covered, with the [ordering] physician, the patient identifier information, and so on." That has eliminated the deer-in-the-headlights response she'd occasionally observe in clinical colleagues when she'd announce the next case.

The original-recipe DMT calls for weekly meetings. Dr. Stevenson-Lerner says that's less crucial for liver disease, since with most liver biopsies patients will return for the results in four to six weeks. "You have more time to discuss their case," she says. For inpatients, "you can call the clinician and let them know right away that you plan to discuss it—kind of have a stat DMT when needed."

For now, the liver DMT meets every other week, covering about five to eight cases. Most of the time, the one-hour meeting is sufficient to handle them all. If a case arises after the DMT meeting, Dr. Stevenson-Lerner will reach out to the ordering clinician for an "on-the-spot DMT. Because I don't want a patient packed away for two weeks."

Some, noting similarities to a tumor board, might wonder how a DMT differs. "It's very, very similar," Dr. Stevenson-Lerner says. "But it's for nontumor patients. We don't really have anything like a tumor board, where everyone gets together in a room to discuss a complicated case." Perhaps that happens informally, she says. "But this [the DMT] is improving on it, because you're documenting it in the record, and everyone can see what was discussed."
The follow-up note doesn't have to be long, she says. "Just a few short sentences to summarize everything that was said." Write it promptly, she advises, "while everything is fresh in your mind."

Once the case is signed out, it moves to the inbox for pathology billing services.

Trying to work out the logistics of billing has proved to be one of the more arduous tasks of running the liver DMT. "For over a year I was doing this DMT without getting paid for it," she says. "Just doing it to help patients and get the ball rolling." That changed in early February. "But it took me about four to six months to get Epic to work properly."

Dr. Stevenson-Lerner isn't shy about sharing her experiences, offering to speak with others who might be interested in setting up a similar DMT. "I might even have the Epic Beaker team make a couple of summary slides of what they did, so that it might be a fast process for others trying to implement this," she muses.

Two CPT codes are currently approved: 80500 and 80502.

The first covers a limited clinical pathology consultation, without review of a patient's history/medical records. "These are actually codes for clinical pathology, but that's all we have for now," she says. "It's a really quick review," essentially to confirm a case of cancer prior to surgery.

The 88321, 88323, and 88325 codes are usually used for outside cases. The 88325 code, which may be less familiar to pathologists, is a comprehensive consultation—"for example, if I'm getting a medical liver biopsy for a consultation that takes diving into the medical record and could take hours." Working to get this approved with DMT notes would be a huge step forward for this billing, she says.

The 88321 code also might prove to be applicable and is being discussed, she says.

"That would increase the reimbursement just a little bit."

As she talks about payment, Dr. Stevenson-Lerner reiterates the importance of each step in the DMT.

To ensure payment, the clinician order for the consult is required. (At UTMB, physicians also have their PAs and nurse practitioners order them.) The case also has to be reviewed by everyone present at the DMT, and that note needs to be placed in the patient's record. Billing also generally requires evidence that the DMT has an impact on patient care. "It can't just be, 'Oh, we reviewed the pathology on hepatitis C,'" she says. Rather, "We might say, 'We ordered an additional test. We discussed this particular treatment.'" In her reports, Dr. Stevenson-Lerner will note the date the case was reviewed, who was present, "and that we all agreed on whatever we're doing."

All? "That's a great question," she says. "It hasn't really gotten to the point where we've debated something so much that we didn't come to a consensus. We might disagree a little bit at the beginning, but usually after hashing it out at the conference we're all on the same page."

The final decision would rest with the treating clinician, she continues. "So you want to make sure that the clinician who ordered the DMT consult, or the one who's going to be following up with the patient, is on board with your discussion."

Even as she meticulously deconstructs the added work of running the liver DMT, Dr. Stevenson-Lerner sounds energized. (Indeed, during the DMT Conference in Galveston, Dr. Laposata joked that "She's the only person who talks faster than me.")

Says Dr. Stevenson-Lerner: "I think when you're first starting out, it might seem like a lot of effort." With more experience, the DMT runs much more efficiently, however. "You'll quickly realize it's worth it. I would do it even if it weren't reimbursed. I've seen how much it helps."

And, she could add, how simple complexity can be.
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