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Spotlight on DIVA: Strategies to Enhance the Care Continuum

Announcer:
Welcome to *Vascular Viewpoints* on ReachMD, sponsored by Becton, Dickinson and Company. Here's your host, Dr. Charles Turck.

Dr. Turck:
Welcome to *Vascular Viewpoints* on ReachMD. I'm Dr. Charles Turck and joining me to share strategies to curb rates of difficult venous access, or DIVA for short, and improve care is Sean Lau, a vascular access specialist at Stanford Health Care. Mr. Lau is also the Chief Executive Officer of SJC Vascular Access in San Francisco, California. Mr. Lau, thanks for being here today.

Mr. Lau:
Well, thank you. It's my pleasure.

Dr. Turck:
Let's begin with some background. Mr. Lau, can you give us a sense of the prevalence of DIVA?

Mr. Lau:
One of my friends, who is a vascular access specialist and coworker, she has a common phrase that our patients are just getting harder and harder to find good venous access. But what does that mean in quantifiable terms? There are plenty of articles that measure the typical number of patients with DIVAs, which has a widely reported range depending on the patient population and the DIVA definition, itself. These articles describe a current DIVA prevalence that can range anywhere from 6 to 87%, which is quite staggering when you think about it. I don't think many hospitals and healthcare institutions have a good handle on the scope of this condition or they're typically disregarding it as an underlying problem that just won't go away. Their view is that for these types of patients, we just need clinicians with better skills, even though this doesn't solve the problem and we still end up having to make seven or eight sticks before we can get adequate venous access.

Dr. Turck:
So, with that in mind, are there currently any prevention strategies for DIVA in your practice and do they have any limitations associated with them?

Mr. Lau:
I think we've all heard the prevention strategies to decrease chronic illness. There are things like eating healthy and getting regular physical activity avoid drinking too much alcohol and not smoking. In general, these activities will help us improve the health of our vasculature and decrease our DIVA population. Some of the things that our patients can do to make it easier when inserting an IV include drinking lots of water to become adequately hydrated and anything that will help them reduce stress, such as meditation, soothing music, and of course, getting plenty of sleep. And just to note, I know that many of these recommendations may not be practical and there are limitations. Just being sick is extremely stressful. It's a factor that we can't just remove. Oftentimes, patients can't hydrate before a medical procedure such as a surgery and for emergent events, there's no amount of planning that can help.

Dr. Turck:
And what are some of the challenges related to venous access that have led to this problem becoming so widespread?

Mr. Lau:
That's a great question. Remember, we're trying to cannulate very small veins with tubes to insert medication or draw blood. So, the complications lie in the properties of the veins we're trying to access and the devices we have available for cannulation.

First the veins we're cannulating, what's happening with our patients today? The World Health Organization reported in 2020 that the average life expectancy is up to 73 years, that's six years longer than what it was reported in the year 2000. But, while we're living longer, it's also reported that chronic disease is the primary cause of death, at least 75 percent. So, fatalities from diabetes is up 70 percent, heart disease up 32 percent, obesity rates in the U.S. have increased from 30 percent to over 40 percent. These rising statistics are generating factors that increase the prevalence of our DIVA population.

So, first we discussed veins and now we factor in the devices that we have available for cannulation. In order to overcome the changes of our patient population that we just discussed, obesity, diabetes, and other chronic illnesses, there are many new procedures, devices, and techniques dictating emergent best practices. The challenges in venous access are that there are so few clinical specialists who are enabled to communicate the value of these devices and techniques to the organization that even if they do exist in the organization, they aren't utilized for the decision-making process. It's amazing that one of the most common procedures in the hospital is venous cannulation, yet we spend so little resources to ensure we're providing best vascular access patient care.

So, what I guess I'm saying is that the pertinent venous challenges that are causing DIVAs to become so widespread is how chronic diseases are increasing and that all vascular access devices are not always well understood and properly used to address our DIVA population.

Dr. Turck:
For those just tuning in, you're listening to *Vascular Viewpoints* on ReachMD. I'm Dr. Charles Turck and I'm speaking with Sean Lau about difficult venous access, or DIVA.

Now that we have a better understanding of this challenge, let's look at the ways that we can overcome it. Mr. Lau, from an operational standpoint, what are some strategies that we can use to improve venous access?

Mr. Lau:
So, the first strategy I'd use is to provide better training and education in traditional peripheral IV insertion. We discussed this in the last question and the limited amount of training provided to nursing students, I believe is just as limited in the acute care hospitals. These nurses are expected to become experts overnight. If you don't have expert level performance around peripheral IV insertion, you're just compounding the problem of DIVA patients. Increased insertion attempts have been linked to increased thrombosis rates and mechanical damage, which decreases vascular health, and it creates more DIVA prevalence.

So, the next strategy I'd use is to incorporate the many vascular access devices outside of traditional IVs that will help us to provide better solutions for our patients. In order to use these vascular access devices, we need proper education and training just like we discussed for IVs. Our clinicians aren't always provided education and training to make expert decisions when using these alternate devices.

Dr. Turck:
And from a more clinical standpoint, what are some ways that we can reduce DIVA rates?

Mr. Lau:
Oh, well, all too often we aren't actively assessing our patients then choosing the best vascular access device. Typically, we start by placing an IV upon arrival then reactively change that device over time when prompted by protocol standards and increased vascular access needs. This often results in more devices than we need to place, and improper infusions administrated and contradicting our best practice guidelines by increasing mechanical and chemical venous damage. All of this could've been avoided.

So, how do we reduce DIVA rates? Let's add the topic of timeline where we now look at our pediatric patients who are diagnosed with chronic illnesses such as congenital heart failures, cancers, sickle cell anemia, CF, diabetes, how can we handle these patients' vascular access? All too often it's reactive and not actively planning. And the way we do this better is by providing better education and training for our clinicians. Are you sensing a theme?

Last point I'd like to make is to choose the right device to reduce DIVA rates is around CLABSI prevention. I've heard and read too many hospitals are moving away from central line utilized to decrease CLABSI rates, trading one problem for another. And just because the other is left monitored by the government, it doesn't necessarily mean it's less important to the patient.

Dr. Turck:
Let's dig deeper into device selection for a moment. Are there any tools or strategies you recommend for choosing the right device at the right time for your patients?

Mr. Lau:
Yeah, there are many tools out there for device selection if you care to look. There's the MAGIC guideline, the ERPIUP, which is the

panel of the European experts, the WoCoVA or the World Congress of Vascular Access, and of course GAVeCeLT with our friends in Italy. We also have numerous hospitals that have created standards and device selection tools. My personal recommendation is the simple one based on three factors. One the patient, which also includes their current and past medication medical condition, as well as the patient's preference. Two is the InfuseIT, which not only includes the type of medication, but also the rate, concentration, and duration and the number of infusions, of course if there are multiples. And the third is the level of care the patient will receive. This is a very important factor in determining device selection as it's important to understand the care and maintenance of the patient is offered, how often the line will be assessed, what the caretaker's level of skill and education, what about dressing changes and so forth.

Dr. Turck:
Now, before we close, Mr. Lau, do you have any parting thoughts or take-aways you'd like to share with our audience?

Mr. Lau:
Yes, I'd like to underly the importance of providing education and training to our frontline clinicians. Especially in these times of COVID, they're often overworked and exhausted. Education and training should help us focus on working better and smarter, not necessarily harder. The healthcare profession needs to invest in the field of vascular access. The only way I think we'll be able to do this successfully is for our hospitals to start taking vascular access more seriously and placing it with a higher priority on providing education, training for active device selection, and vascular access device care and maintenance.

Dr. Turck:
And with those final thoughts in mind, I want to thank my guest, Sean Lau for joining me to share his insights on DIVA risk reduction. Mr. Lau, it was great having you on the program.

Mr. Lau:
Well, thank you so much for having me here. I really appreciate it.

Announcer Close
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