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ReachMD
www.reachmd.com
info@reachmd.com
(866) 423-7849

Modeling New Mindsets on DIVA Risk Reduction: Pathways to Improved Vascular Access

Announcer:
You're listening to ReachMD, and this episode of *Vascular Viewpoints* is sponsored by Becton, Dickinson and Company. Here's your host, Dr. Jennifer Caudle.

Dr. Caudle:
Welcome to *Vascular Viewpoints* on ReachMD. I'm your host, Dr. Jennifer Caudle and joining me to examine difficult IV access in vascular care is Dr. Cheryl Campos, a Critical Care Nurse Educator and Clinical Performance Improvement Specialist at Salinas Valley Memorial Hospital in Salinas, California. Dr. Campos, welcome to the program, thanks so much for being here, today.

So, let's begin with a high-level overview of difficult IV access or DIVA. Dr. Campos, what can you tell us about this issue?

Dr. Campos:
Well, DIVA is a term many of us use to describe patients that we find challenging or difficult to successfully place their IV. There's no consensus on the definition, but most often when we use the term DIVA, we're talking about patients that require multiple attempts to place their IV. The Infusion Nurses Society or INS, defines DIVA as a patient that has to have multiple attempts to cannulate a vein, need for use of special interventions to establish venous cannulation, or based on a history of difficulty due to disease injury or frequent unsuccessful venipuncture attempts. The definition goes on to talk about patients that might be considered a DIVA in an acute scenario like a fluid volume deficit from a sudden illness or chronic due to a lengthy history of difficult intravenous access. When I think of a DIVA, I envision a patient that's chronically ill, has chronic conditions like diabetes, renal disease, someone who's obese, a patient that's receiving chemotherapy, patient with a history of drug abuse, or other characteristics like tattoos, dark skin, scars on their arms, children, chubby babies, elderly. But really, a DIVA patient can be anybody. If you have nausea, vomiting, diarrhea, and you've had it for several days and you're now dehydrated, you're very likely to be a DIVA patient, at least during the acute phase of this illness.

Dr. Caudle:
And so, where and with whom do you see difficult IV access turning up most frequently? You talked about that a little bit, but perhaps you have something to add to that. And are there specific risk factors we need to be aware of?

Dr. Campos:
Sure. Well, my background is in emergency nursing, so the place that I would encounter most DIVA patients would of course be in the emergency department. However, I suppose the question would depend on who you ask and where they work. Since the majority of patients that are admitted to the hospital come through the emergency department, I'd say that's where we're going to encounter them most often. And quite typically, an IV is placed prior to them going upstairs to the unit or prior to admission, so it's a very common area where we would encounter them. But certainly, many DIVA patients present in outpatient settings, home healthcare settings, etc., so all over really.

With regards to specific risk factors, if you are asking who's at risk for being a DIVA patient, I believe we already answered that question by listing the common factors associated with DIVA. But I would like to speak to a topic to the topic from a patient's perspective. I think patients need to have a heightened awareness and speak up when they are in a situation where a healthcare provider wants to place an IV on them. I think patients should readily advise the clinician that he or she is often stuck multiple times before an IV is successfully placed. If it regularly takes more than two attempts to get your IV, I'd say you're a DIVA, unless of course it happens because you're just having an acute illness. My colleagues might not agree with me that patients should tell them or the person inserting their IV that they're a difficult stick, but I'm on a mission to change the way we've always done things. Unless it's an emergency, and even then the way we

manage placement of vascular access, I think could be done better, all of us should slow down, take a deep breath, do an assessment of the patient, ask the patient what their experience has been in the past with IVs, perform a thorough review of the medical record looking for the presence of disease processes or characteristics that we know increase the likelihood that they'll be a DIVA.

Dr. Caudle:
And what are the most worrisome downstream impacts that DIVA patients face?

Dr. Campos:
Any time you puncture the skin, there's a possibility for entrance of bacteria and development of an infection, of course, or other complications. I think many people think about CLABSIs, or central line-associated bloodstream infections, but fewer know about or think about peripheral IV bloodstream infections. CLABSI rates for central lines are estimated to be about 0.8 per 1,000 central line days. One estimate I've seen for peripheral IV bloodstream infections is about 18%, others are much lower than that. But, if we used 18% just as an example, 18% of 2,000,000 peripheral IVs placed annually is 360,000 infections a year. That number is significant. Unfortunately, pay-for-performance, CMS, Medicare reimbursement, only focuses on central line infections at this time and sadly unless or until these entities begin to demand reduction in peripheral IV infections as well, there's really not likely to be any improvement in the standard of practice to prevent them from occurring.

Nursing schools have taken out placement of IV catheters, from their curriculum, the way many of us are trained, it's just at the bedside by whoever it is that happens to be assigned as our preceptor. There's not necessarily a consistent standard of care to validate competency, nor is there really a standard of practice for how they should be placed. And for the patient, if all the veins in your arms are used up and we begin to look at placing a central line, like a PICC or a CVAD that goes into one of the major vessels of your heart, when we're placing something of course in the internal jugular, subclavian, axillary vein, femoral vein, or peripherally like through- with a PICC, as these lines become more invasive as we require additional attempts to successfully place them, you're more likely to have complications.

Dr. Caudle:
And how would you say hospital systems and care teams in general are addressing DIVA risks and incidences? Are good assessment and communication protocols in place?

Dr. Campos:
Well, I'm not sure anybody's actually addressing DIVA risk, per se, but if you consider the concept that healthcare systems are actually creating DIVA patients, you know, at least as it exists now, one might say that we're not really addressing the risk at all. If we just keep doing what we've been doing all along, nothing's going to improve or get better. We're progressively depleting patients' viable veins with every attempt. People are living longer with more comorbidities and the prevalence and incidents of DIVA patients is only going to get higher.

Dr. Caudle:
For those of you who are just tuning in, you're listening to *Vascular Viewpoints* on ReachMD. I'm your host, Dr. Jennifer Caudle, and I'm speaking with Dr. Cheryl Campos about difficult IV access in vascular care.

So, Dr. Campos, let's dig into assessment and pre-assessment practices just a little bit more. Now, obviously having a patient already stuck multiple times is not the best way to determine difficult IV access. But what kinds of practices help identify high-risk patients early to avoid multiple sticks?

Dr. Campos:
The simplest I can make it is if you cannot see or feel the vein, stop. Get additional resources, humans who are advanced skilled, tools, techniques, devices to help you get it in the first time and, and not continue to harm these patients. And I can only speak for my hospital, but I'd say where I work, at least in the last few years, our nurses have actually become really skilled at assessing patients' vein viability and asking for assistance from our advanced skilled nurses to come in and interestingly, our patients even know the difference. They'll often say "No, I want the nurse with the ultrasound to come in." That speaks volumes to the fact that they're paying attention and they know the difference.

Dr. Caudle:
And, when we've determined that a patient is difficult access, what are some effective approaches and/or tools from your experience that can make a positive impact?

Dr. Campos:
Well, you can use vain visualization equipment to better identify appropriate veins for cannulation. There's near infrared transillumination, ultrasound, there's specialty peripheral IV catheters with guidewires available to further assist with placement. These

are known to have higher first-time attempt success rates, few complications, there's advanced skill nurses as we talked of that can place IVs on difficult patients much more proficiently than some of the other bedside nurses out there. These resources should be the standard way that we approach IV insertion. It shouldn't be a last resort if somebody has tried multiple times and unable to get it.

Dr. Caudle:
And finally, looking at the big picture again, Dr. Campos, what do you think is still needed at the clinical and administrative levels to increase awareness and better adjust this problem of difficult access?

Dr. Campos:
I think a heightened awareness is really the most important thing that we can do. I think patients need to be aware of what's happening and that it's not acceptable for us to just keep doing what we've been doing all along. I think that those that are making the decisions on staffing and purchase of equipment and hours of operation where they have these things available need to really understand that the, the cost that we're talking about here is huge. It's not just the upfront cost of things, it's the backside that needs to be considered. And unfortunately, I don't think most key decision makers in the hospital setting are, are looking at anything other than the cost right before them or up front.

There's many of us trying to get the word out about the true cost of complications from not doing the right thing first. Administrators that make these decisions need to be involved in the conversations; all the stakeholders involved, in any of the process from start to finish should be involved and recognize what their decisions are doing and what's really happening at the bedside and to patients. There's huge risks associated with not doing the right thing, and not doing it first. Really, really, what is the cost of somebody's life? I believe the current practice is accepted but it is completely unacceptable, and we've known that for a long-time. We need people in power to be able to get involved in, and us as a culture and a country to say this cannot continue, we have to do it differently.

Dr Caudle:
Really interesting thoughts, Dr. Campos, unfortunately that brings us to the end of the program today. But I'd like to thank my guest, Dr. Cheryl Campos, for joining me to focus on difficult IV access. Dr. Campos, it was great having you on today.

Dr. Campos:
Thank you. It was great being here.

Announcer:
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