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Beyond Abstracts: Improving Data Analysis in Vascular Access Care

Announcer:

Welcome to Vascular Viewpoints on ReachMD, sponsored by Voices of Vascular. *Content for this series is produced and controlled by ReachMD.*

Here's your host Dr. Jennifer Caudle.

Dr. Caudle:

When faced with a challenging vascular access situation, clinicians in the know generally turn to available evidence as a reflexive systematic approach to making sound decisions. But what if the principles underlying good data analysis varied between vascular access teams and respective institutions? Wouldn't that complicate standards of care when the same bodies of evidence get interpreted very differently? Well, on today's program, we'll investigate this issue and peel back the layers of critical decision-making needed to bridge interpretative gaps in vascular therapy plans.

This is Vascular Viewpoints on ReachMD. I'm your host, Dr. Jennifer Caudle. And joining me is Nadine Nakazawa, a Vascular Access Specialist at Stanford Healthcare in California. She has been involved in the specialty of vascular access for over 37 years and is a past President of the Association for Vascular Access. Nadine, welcome to the program.

Ms. Nakazawa:

Thank you for this opportunity. I appreciate it very much.

Dr. Caudle:

Absolutely. So, to start, let's understand the primary issue in front of us here. You know, where are vascular access teams struggling when it comes to clinical decision-making?

Ms. Nakazawa:

Well, there are guidelines and recommendations from a number of different perspectives. But vascular access as a specialty actually is very multidisciplinary. So oftentimes guidelines develop from trying to prevent a certain kind of complication such as preventing infection or preventing thrombosis, but also the primary issue is how do we deliver the prescribed I.V. therapy? Um, in – for the clinician to try to incorporate these kinds of recommendations into their clinical practice is really looking at the patient and all of the variabilities that we see, uh, in our patient population.

Dr. Caudle:

Excellent. You know, before we dive into the critical thinking steps that are needed to make better decisions in complex situations, can you just touch upon the current clinical guidelines for vascular access management and what impact they've had to this point?

Ms. Nakazawa:

Well, number one is CDC guidelines, uh, to prevent catheter-related bloodstream infections. They've been developed over three to four decades. They've evolved over time. Every healthcare organization should have those recommendations incorporated into their clinician's practices and have provided the appropriate technologies to support that. Um, beyond that, uh, certainly you have things like the National Kidney Foundation, uh, with their KDOQI guidelines that provide guidance to that very increasingly large population of

patients who have renal insufficiency all the way to end-stage renal disease. And so, there's, uh, national movement that's not necessarily well understood outside of nephrology, outside of vascular access, in terms of preserving critical arm veins, in particular, and chest veins, thoracic veins, for future AV fistula creation. Um, we also have the infusion nursing, uh, standards of practice that provide a framework for how, uh, vascular access should be – and infusion therapy should be structured within hospital's frame – policies and procedures should be framed within organizations. And there's a myriad of other types of guidelines, uh, both national and international that should guide our practice.

Dr. Caudle:

Excellent. And if we consider the prototypical evidence pyramid in forming these guidelines, which puts randomized control trials and meta-analyses at the very top for actionable evidence, where has vascular access leveraged that level of data? And why is it so difficult to obtain in this field?

Ms. Nakazawa:

So, it requires a, uh, exposure to what the guidelines are. So that means that certain clinicians within a healthcare organization should be active members. I mean, ideally all members of a vascular access team, hospitalists, et cetera, anyone who has a stake in vascular access, should be a member of some of these or all of these national organizations. Um, it's where you get exposure to guidelines, standards, changing and evolving discussions, uh, around appropriate device selection, management of these devices, complication management, and certainly preventing these kinds of complications. Unfortunately, as in many hospitals, uh, vascular access is actually considered a device, and somebody's in charge of placing it. But there is sort of an overarching, overview or control over managing these devices and educating bedside staff in terms of preventing these kinds of complications.

Dr. Caudle:

Okay, great. And what that background in mind, what are the fundamental principles behind vascular access decisions? And how do you help others envision those steps?

Ms. Nakazawa:

So when I'm teaching, I always start off with the idea, the concept to remind people, even though it seems quite obvious, that blood is circulating every minute throughout the body, but there are very limited access points for which we can actually insert a device to be able to deliver the prescribed I.V. therapy. So how we do that, how we select that, there's all a science around that. Um, and it really behooves anyone who's doing device insertion to understand all of the various kinds of devices, the pros and cons of these various devices, the various risks that are associated with these devices, and the way the benefits versus the risks of a specific device, or specific type of I.V. therapy in a given patient. Patients' needs and their anatomy and their, uh, whatever's going on with them changes over time, and so it's that critical thinking, that assessment of appropriateness to select, place, manage, and then remove an appropriate device in order for the patient to get their I.V. therapy in a timely manner.

Dr. Caudle:

Okay, great. So, Nadine, clearly, we're looking at some ongoing issues in the ways clinicians incorporate data into vascular access decisions. What are some keys we should keep in mind to improve how we validate and break down this data before applying it into practice?

Ms. Nakazawa:

So many clinicians have not had formal courses in methodology or statistics, particularly healthcare statistics. But in – by attending conferences, attending meetings, reading journal articles, uh, look – joining discussion groups, you can begin to understand how to read, analyze, and understand these various studies, these various randomized controlled trials; whether they're retrospective studies, prospective studies, whether they're meta-analyses. It's really helpful to talk to other experts who can help illuminate what are the key points, what are the, uh, perhaps, uh, the downside to certain of these studies. What are they leaving out that, in the clinical arena, we need to have answers? So, in order to have a fuller understanding of the impact and the relevance of particular studies, it really is helpful to talk to other clinicians who actually understand this.

Dr. Caudle:

We know that we're all prone to scanning abstracts for those big-picture concepts that either support or contradict what we currently do. But are there examples from this field where that time-saving approach actually led to more confusion than clarity?

Ms. Nakazawa:

we abound with perhaps errors in, uh, understanding and implementing. And you hear about these kinds of mistakes, um, I – whether it's in malpractice cases or whether it's in discussions about bad outcomes in patients. So, it can be – definitely can be misunderstanding of certain kinds of, um, of what the results of these particular studies are. In vascular access, hopefully vascular access specialists are driven to wanting to understand what the underlying studies – what they really looked at, um, how did they come to their conclusions, uh, what do these conclusions mean for our clinical practice. And then find an arena in which to discuss what their concerns and issues are to better understand them, if we are to incorporate those recommendations into our clinical practice.

Dr. Caudle:

Great. And what are some methods you recommend to help colleagues wean off of this abstract-only approach and get a deeper understanding of what the evidence is really telling us?

Ms. Nakazawa:

again, if you have colleagues that you can talk about this with, um, some chapters, vascular access chapters, AVA chapters, have journal clubs. There are online journal, uh, groups, vascular access groups on Facebook for example. Just within your local arena, uh, your local area there may be chapters. There may be just within your own hospital there may be interested colleagues for which you can share and discuss some of the – some of the findings in these articles. And then should you actually implement into policy and procedure. There should be robust investigation in looking at these studies before they become incorporated.

Dr. Caudle:

Excellent. And before we close, Nadine, let me give you the last word on this discussion. You know, what should our audience take away from today's, uh, discussion. Uh, what's the focus, and are there any resources out there to help us stay on top of vascular data interpretation?

Ms. Nakazawa:

Well, I think compared to when I was a nurse 40 years ago, we have a much – we have more resources. We have much more published out there. We have much better ability to talk amongst ourselves, both nationally and internationally about a whole variety of topics related to vascular access. At the very, uh, basic level, join one of the national organizations around vascular access. Um, if you can, attend their national conferences. If there are regional conferences, attend those, as well. Read the journal articles and begin to build on your knowledge and understanding. It helps you begin to frame your questions and to begin to understand this kind of data at a much deeper level. The more you read, the more analyses you – you look at. It helps to begin to frame your understanding. Um, it may highlight more questions for you, but having those kinds of questions helps you to think more critically.

Dr. Caudle:

That's excellent. Well, on behalf of evidence seekers everywhere, I'd really like to thank my guest, Nadine Nakazawa, for helping clear up some of the more mystifying aspects of data interpretation in vascular access care. Nadine, it was wonderful having you on the program. Thanks so much for being here.

Ms. Nakazawa:

Thank you for this incredible opportunity.

Announcer:

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