AN INTERVIEW WITH...

Kush R. Desai, MD, FSIR

Dr. Desai discusses the deep venous field and its need for objective measures and data collection, as well as the importance of multidisciplinary collaboration and thoughts on his role as Medical Director of Supply Chain/Value Analysis at Northwestern.

Your work focuses on venous thromboembolic disease (VTE) and other chronic venous conditions, a dynamic field that is advancing rapidly but still has many unanswered questions and clinical needs. What do you consider to be the biggest limitation in today's deep venous care capabilities? What is the biggest unmet need you encounter in practice for which there's currently no great answer?

I think our uncertainties are reflected by how dynamic the field is. First, I'd say the uncertainty that rears its head in my practice most frequently is how do we get good at talking about inflow, particularly in chronic venous occlusions? Those who have experience in it generally have a pretty good idea of what good inflow and bad inflow are before doing a venous recanalization procedure, but how can we talk about it in a more objective manner? What sort of objective metrics can we develop? A lot of work needs to be done in this regard so we can have better long-term outcomes. Right now, we clearly see that there are patency issues with postthrombotics, and if we can improve how we talk about inflow, we can improve our patient selection and ultimately improve outcomes.

The second question is how do we get better at demonstrating value to our patients when performing deep venous procedures? It's interesting that among the patients enrolled in the investigational device exemption (IDE) trials, a significant proportion of stents were placed in patients with edema and CEAP (clinical, etiologic, anatomic, pathophysiologic) C3 disease, and we haven't actually shown that we've improved the edema.

I think this is a huge gap in our knowledge; we need to specifically focus on demonstrating value and improvement to our patients beyond retrospective studies and single-center efforts and in a more multicenter, multidisciplinary concerted effort.

In November 2022, you were an author in a Society of Interventional Radiology (SIR) position statement that included recommendations on the use of endovascular therapies for acute iliofemoral deep vein thrombosis (DVT) management.[1] What were the unique challenges of determining this guideline? And, what implications do you think these recommendations will have on clinical practice and/or future study?

Our work on the position statement—led by my good friend and Principal Investigator of the ATTRACT trial Dr. Suresh Vedantham—brings into sharp focus which patients we think are best served by an early thromboreductive strategy. We all know that in the primary ATTRACT publication, the conclusion was that routine endovascular therapy does not reduce the risk of postthrombotic syndrome as a whole in patients with proximal DVT.[2]

But as you peel back the layers, you see patients with significant iliofemoral DVT actually derive benefit. So, one of the things we wanted to do in this position statement was consider how we can synthesize all the different lessons we've learned not only from ATTRACT but also from the predicate literature and provide a current, distilled guideline for practitioners to best select the patients who are going to benefit from an intervention.

Along with the position statement, you also provided commentary wherein you identified an opportunity for future research: an assessment tool specifically intended for acute DVT.[3] Can you elaborate on this necessity and what

(Continued on page 67)

(Continued from page 70)

would be needed for such a tool to be created and validated?

In addition to showing which patients did better with endovascular therapy, one of the powerful things to come out of ATTRACT was an objective way to talk about DVT severity in patients. Before, we would say that it's an iliofemoral DVT, for instance, but we didn't have a clear way to convey severity.

In a post hoc analysis, a Villalta score ≥ 10 in those with iliofemoral DVT were found to have significant improvements after intervention.[4] That's powerful and moves the entire field forward because up until now, this assessment was subjective. But really, this is the first step; we need a prospectively validated way to evaluate patients with a tool designed specifically for acute DVT.

Can you tell us about your work with the Deep Venous Academic Research Consortium?

As I've mentioned previously, there is a need to move the deep venous intervention field forward in regard to how we gather data and ultimately how we communicate with our patients and select them for treatment. One effort we hope will move the needle in a positive direction on this is the Deep Venous Academic Research Consortium. I'm honored and fortunate to lead this effort with my good friend, Professor Stephen Black with Guy's and St Thomas' in London.

The goal behind this effort is to define the data elements we would like to see uniformly reported throughout all deep venous trials, whether IDE, postmarket, or prospective trials. If we collect common data elements, we can start to make valid comparisons in a systematic and objective fashion, whereas right now we're comparing "apples to pears." We're proud to lead this effort and hope it's as impactful as we think it will be.

From research and conference presentations to clinical trials and your work with the Northwestern Medicine IVC Filter Clinic, you've been a leading voice in promoting safe inferior vena cava filter (IVCF) management and retrieval. What are your fundamental principles for timely and safe IVCF retrieval, even in complex settings?

The practice of IVCF utilization is near and dear to my heart because it was my first foray into venous disease. With IVCF management, utilization, and ultimately complex retrieval, I've learned over the years that there's one thing at the center of a high-quality practice: dedicated personnel. Between myself, Dr. Bob Lewandowski, and previously Dr. Bob Ryu, dedicated physicians have really been a key part of success. But our coordinator, Jenny Karp, is the heart of our practice. She really is why this practice and my larger venous practice are successful. Certainly, physicians can become clinically adept at a procedure or caring for a particular disease process, but without singularly focused, best-in-class people like Jenny, the likelihood of success is much lower.

You and colleagues recently published a paper on antithrombotic therapy after deep venous intervention for chronic venous disease.[5] What is your usual protocol for selecting an anticoagulation/antiplatelet regimen for these patients?

It's an interesting question because I think I have a protocol that works, but what we also highlighted was that everyone does this a little bit differently. This is another area where we need to be much more objective and generate more concrete evidence so we're all moving forward in the same direction rather than diverging.

For acute thrombotic and postthrombotic patients, I do favor low-molecular-weight heparin as a frontline approach, particularly if I'm performing an intervention because it has an anti-inflammatory and anticoagulant effect. Then eventually, in short order, we get them on oral anticoagulants. In nonthrombotic cases, I diverge a little bit. I don't actually anticoagulate them, and I haven't had a problem with it. There may be people who feel differently, but the disease process in nonthrombotics is very different than in postthrombotics. I've found that I can treat my nonthrombotic patients without subjecting them to any anticoagulant therapy, and they've remained patent.

What does your role as Medical Director of Supply Chain/Value Analysis at Northwestern entail, and how do the insights gained in it inform your daily work as a physician?

I've always had an interest in device utilization and innovation but also the supply chain and value analysis side of things. I initially started as a member of a value analysis committee, but over time this led me into a leadership position as the Medical Director of Supply Chain/Value Analysis at Northwestern Memorial Healthcare. In this role, I've learned there is a whole other world that most physicians don't think about but probably should. When we consider products for implementation, we need to consider whether additional costs equate to better care and whether standardization of portfolios could lead to savings that can

be positively reinvested. Medical care, particularly in the United States, generates a considerable amount of waste. We need to ensure we deliver not only high-quality care to our patients but also fiscally responsible care with an eye to the future. We need to look objectively at what we're using and how we can improve device utilization and supply utilization in general. Being involved with this other side of health care has been eye-opening, immensely educational, and rewarding.

With interest in venous therapies on the rise in the vascular interventional community and educational needs evolving as the community grows, what is one change or advancement you'd like to see in the educational landscape?

Interactivity is essential. Coming out of COVID, we've learned that didactics can be delivered in a variety of means, but what you can't readily get in an online call is the human interaction elements of a meeting. Showing cases, learning from each other's experiences—mistakes and successes—is best done in person. As we look forward to educational forums of the future, didactic education certainly isn't going anywhere. But we can be more dynamic and interactive and have more debates, especially in areas in which there's clear equipoise.

A common thread in your work is the importance of approaching VTE care with collaboration across disciplines. What advice do you have for physicians who want to foster this within their practices?

A great success at Northwestern, and I'm fortunate to be a part of it in our VTE practice, is our multidisciplinary VTE clinic, our clot clinic. I give all the credit to my friend and colleague, Dr. Karlyn Martin. She's taken the lead on this, bringing in myself, a pulmonologist, and some of our cardiology colleagues on the pulmonary embolism side to ensure that these patients receive holistic care both when in the hospital and, most importantly, when they leave the hospital.

We know that for many people, VTE is a lifelong disease, and it needs to be managed holistically rather than in silos. If you as a practitioner are devoted to quality VTE care, it's important to build coalitions within your institution with other specialties and practitioners. Often, that may mean seeing patients together. We'll have clinic together, and the patient will see three physicians at once. They're grateful they only have to drive into the city one time, and we're grateful to be able to interact with one another so we're not chasing each other on email. This way we come up with a consensus decision and move forward. ■

1. Vedantham S, Desai KR, Weinberg I, et al. Society of Interventional Radiology position statement on the endovascular management of acute iliofemoral deep vein thrombosis. J Vasc Interv Radiol. Published online November 9, 2022. doi: 10.1016/j.jvir.2022.10.038
2. Vedantham S, Goldhaber SZ, Julian JA, et al; ATTRACT trial investigators. Pharmacomechanical catheter-directed thrombolysis for deep-vein thrombosis. N Engl J Med. 2017;377:2240-2252. doi: 10.1056/NEJMoa1615066
3. Desai KR. Endovascular management of acute iliofemoral deep vein thrombosis: who benefits? J Vasc Interv Radiol. 2022;33:1171-1172. doi: 10.1016/j.jvir.2022.06.022
4. Thukral S, Salter A, Lancia S, et al. Predictors of clinical outcomes of pharmacomechanical catheter-directed thrombolysis for acute iliofemoral deep vein thrombosis: analysis of a multicenter randomized trial. J Vasc Interv Radiol. 2022;33:1161-1170.e11. doi: 10.1016/j.jvir.2022.05.030
5. Xiao N, Genet M, Khaja M, Desai KR. Antithrombotic therapy after deep venous intervention. Semin Intervent Radiol. 2022;39:357-363. doi: 10.1055/s-0042-1757340

Kush R. Desai, MD, FSIR
Associate Professor of Radiology
Section of Interventional Radiology
Director, Deep Venous Interventions
Department of Radiology
Northwestern University Feinberg School of Medicine
Chicago, Illinois
kdesai007@northwestern.edu
Disclosures: Speaker's bureau for/consultant to Cook Medical, Boston Scientific, Becton Dickinson/CR Bard, Medtronic, Penumbra, Tactile Medical, and Philips; consultant to W.L. Gore, Shockwave Medical, Asahi Intecc, Veryan, and Cordis.