AN INTERVIEW WITH…

Anahita Dua, MD, MS, MBA

Dr. Dua reflects on the importance of involvement in leadership and politics as a physician, thromboprophylaxis research priorities, legislative and nonlegislative solutions for amputation reduction, and more.

Your responsibilities as a physician are expansive, with a long list of leadership roles and work with societies and nonprofits, and your interests are diverse, including limb salvage and aortic, carotid, and venous disease. What aspect of your work are you most excited about right now? How would you describe your philosophy for patient care and research?

I think patient care and research are two sides of the same coin. One cannot exist without the other because it is from patient care that both the research question and the passion to answer it are born. And, it is the answered research question that propels patient care to new heights. I am intimately involved in multiple leadership positions on a variety of seemingly unconnected fronts because I believe that one cannot have responsibility without authority. In other words, if I have the responsibility to care for my patient but no authority to control the law, finances, or administration—key aspects that directly impact my patients' health—then what good am I really? I'm just the monkey executing other people's orders without any say in what is the right thing to do for my patient. To that end, I am most excited about getting involved on these fronts to be able to impact the overall patient journey and get the best overall care for our vascular patients.

In your role leading the Massachusetts General Hospital (MGH) vascular lab, you've been studying anticoagulation and biomarkers predictive of thrombosis and hemostasis. What are the prominent knowns and unknowns regarding platelet mapping in peripheral artery disease (PAD), and how does this affect your approach to care? What do you think are the top research priorities for the new year, for both your team and the vascular field in general?

Antiplatelets and anticoagulants are a black box in vascular surgery. Every single procedure we do is in some way reliant on thromboprophylaxis to maintain its patency, but we are essentially blind when it comes to how to personalize care for our patients. What has happened is that we are approaching blood thinners with a "one-size-fits-all" philosophy. If a patient has a stent in the superficial femoral artery, we administer dual antiplatelet therapy; if a patient has a distal bypass, we may give an antiplatelet and an anticoagulant. But what we know to be true is that every patient is different, and when we do this one-size-fits-all approach, we end up with some patients who bleed and some who clot, even on the same medications due to different reactions to the medicine. As in cancer therapy, just because you have a breast "lump" does not automatically mean you need a mastectomy. Many tests are performed to personalize care, and two women with breast lumps may receive completely different therapies.

My aim in our National Institutes of Health–funded lab is to crack the personalized thromboprophylaxis nut. We aim to use point-of-care coagulation testing to determine what specific antiplatelet and anticoagulant a patient needs to remain in a sweet spot where they do not clot *and* do not bleed. We have already identified the platelet inhibition level a patient needs to maintain to decrease their thrombotic risk, and we now have moved on to implementing a new algorithm that doses antiplatelet medications based on viscoelastic testing results.

Our top priority is translating what we have learned into clinic practice. There are hundreds of papers published and millions of dollars spent on studies that look at anticoagulation, but we have not progressed much from saying that monoantiplatelet therapy is the way to go postrevascularization. My aim in our lab is to identify ways we can bring postprocedure arterial thrombotic rates down now and implement these techniques into practice so we can disrupt the current paradigm and move away from the one-size-fits-all coagulation therapy we presently practice.

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You are Principal Investigator for a clinical trial testing a perioperative guided meditation program for patients undergoing peripheral vascular intervention, in an effort to decrease sedative requirements (NCT05837481). Why do you think such a trial is needed, and what impact do you hope it has on patients?

Every day, we are increasing the number of patients undergoing endovascular procedures under light sedation. Unfortunately, one problem with having a patient awake is that they feel anxiety and stress, which may cause movement and in turn result in more angiographic runs (ie, increased radiation and contrast). More sedative may be administered to make the patient sleepier, but that comes with its own downsides: taking longer for the patient to wake up and/or causing respiratory complications.

We aimed to find a way for this particular set of patients to relax preprocedure and decrease anxiety levels. We hope this will allow them to keep still on the angiography table and listen to physician guidance so that we don't need to retake runs. The hope is that we can find a cheap, reproducible, and easy way to allow patients to make it through angiographic procedures with minimal complications associated with sedation, radiation, and contrast.

In 2023, you were granted two opportunities to hone your leadership skills and learn more about health policy: entrance into the year's Presidential Leadership Program class and receipt of a scholarship to attend the Brandeis Health Leadership Program. What are your biggest takeaways from these experiences, and how are they impacting any current or future projects?

These experiences were life-changing. So much content and connection came out of both experiences that it is challenging to put it into words. The biggest takeaway from both experiences is that nothing is insurmountable. America has many concerning issues currently, including partisan politics in government and health care delivery, to name a few. These were discussed at both programs, but what was clear was the cause really is lost only when people stop talking to each other and engaging in civilized discourse. The beauty of the Presidential Leadership Program, for example, is that it is run by former Presidents Bush and Clinton, who have fundamental disagreements on policies yet can sit together and get things done. Leadership is all about compromise. It is about making your points clear but understanding that winning is not the name of the game. If you can walk away with 65% of what you initially wanted and the opposite party gets a win as well, change can be made.

I lead a number of teams at MGH, including the wound care center, limb salvage program/PAD program, vascular lab, and clinical research department. I am honored to serve as the Editor-in-Chief of *Journal of Vascular Surgery-Vascular Insights* and President of the South Asian American Vascular Society and Society for Vascular Ultrasound Foundation, both national societies. In all these positions, I have partners whose opinions differ from mine more often than not. The key to good leadership is transparency and collaborative work. As a leader, although it is ultimately my decision, it is imperative to put aside ego and really listen to why someone else has a different take than me. This is how changes are made sustainable. You cannot be an expert on everything—neither of the presidents were—but they found the smartest people around to surround themselves with and asked *and* listened to their opinions before making decisions. I strive to do the same.

You've specifically discussed the role of health policy in reducing amputation rates. What would this involve, and, what are some non-legislative actions individual physicians can take to tackle this issue?

I wrote an op-ed in *The New York Times* recently that detailed the legislative and nonlegislative ways in which amputation rates can be reduced, with a focus on working toward quality benchmarks.[1] At this point, we say we want the amputation rate to be better, but we don't really know what we mean by "better" because there is no national average for amputation rates. For other diseases, like carotid disease or certain cancers, for example, there is a numerical risk associated with stroke, rupture, or death; thus, we know what benchmark we are trying to beat. Amputation is complex and does not have that established yet, so it is hard to know if a surgeon's amputation rate is higher, lower, or the national average, especially given all the new technologies and tools available for revascularization.

A tried-and-true way to reduce amputation rates right now is to work collaboratively with a limb salvage team that includes vascular medicine, vascular surgery, infectious disease, wound care, a vascular lab, and prosthetics so that patients can be optimized postrevascularization and not lose their leg. I can perform a world-class bypass procedure, but if the patient continues to walk on a bad wound and has underlying uncontrolled infection with

DR. DUA'S TOP TIPS FOR FINDING AND DEVELOPING YOUR RESEARCH INTERESTS

01 Ask yourself: What topic makes you get up in the morning and wakes you up at night? What is your idea to fix this issue? Who can you collaborate with to get it moving?

02 Get cracking on the work! It's important to actually start working on the project; as you start to publish, the question will get further honed and funding/collaborations will come!

high blood sugars, the leg will be amputated. A multidisciplinary approach in a coordinated fashion is the bare minimum for a nonlegislative way to tackle the amputation epidemic.

Improving patient care and public health via health care policy and advocacy is a recent theme of your work, as Founder of the Healthcare for Action political action committee (PAC) and member of the Society for Vascular Surgery PAC Steering Committee, for example. Why did you find it important as a physician to get involved in politics? Outside of amputation reduction, in what ways do you hope to impact change via Healthcare for Action?

Politics drive what we are allowed to do in this country. Especially when it comes to health care, everything stems from what we are *allowed* to do based on congressional laws. As I said earlier, I think it is unfair to have the responsibility for patient outcomes without having any authority over what we can do. This is why I started Healthcare for Action (www.healthcareforaction.com), which has the aim of getting health care workers into federal office. Health care workers are perfect candidates for Congress/Senate because we spend our lives working collaboratively with other teams to care for our patients. We are good at synthesizing data, speaking effectively to each other, and coming up with a plan to benefit patients, and we can do the same thing for America. If we have a seat at the table, we can be a part of the conversation, write bills, and guide the country so that the decisions made in Washington, DC, actually benefit our patients. Healthcare for Action strives to put people in office who are smart, kind, and ready to work in a bipartisan way to move an agenda forward that benefits the entire country. We have a powerful board of several health care workers from across the country who are all working toward this goal.

What is the most rewarding part of being a vascular surgeon?

Without question, the most rewarding aspect of being a vascular surgeon is caring for patients on a daily basis. When a patient comes to me in pain and they leave me without pain, nothing is more gratifying. Being a vascular surgeon and having the privilege of caring for people has given me the opportunity to lead a life with honor. It makes me feel like my time on this Earth will have meant something, and that is so impactful. ■

1. Dua A. My patient did not have to die the way she did. The New York Times. November 27, 2023. Accessed December 7, 2023. https://www.nytimes.com/2023/11/27/opinion/peripheral-artery-disease.html

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