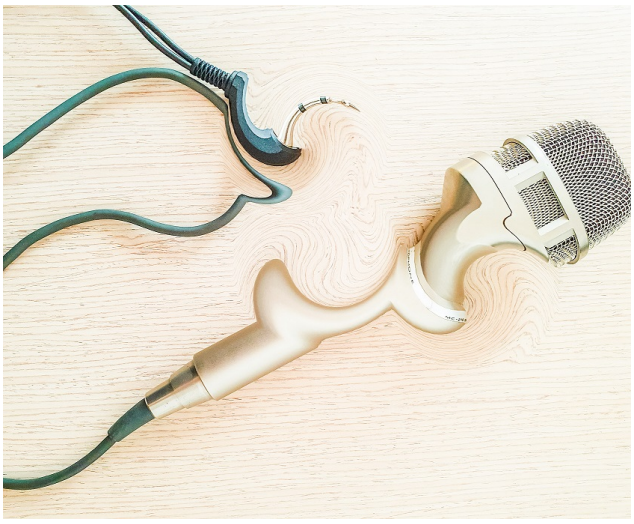
Interview

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In this section, the JTAVR Editorial Team interviews an international protagonist in biomedical scientific research, to deepen unusual aspects among the current most discussed topics.



Globalisation of Phlebology

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Introduction

Globalisation is bringing distant parts of the world closer together, helping people share knowledge and better understand one another. Phlebology-the study and treatment of vein diseases-is one area where this exchange is especially valuable. Yet in Europe, Chinese and more broadly Asian approaches to phlebology are still not widely known, which makes them both unfamiliar and intriguing.

Only in recent years have Asian specialists begun publishing more frequently in English-language scientific journals. This has offered a first glimpse into how phlebology is practiced in that part of the world-often showing surprising similarities with Western methods.

Since 2017, Dr. Smile Medical Group has been developing structured training programs in CHIVA, for treating venous disease. Notably, Dr. Qiang Zhang performed the first CHIVA procedure in China in 2011, marking an important milestone in the spread of this approach.

These programs support doctors throughout China and beyond, in collaboration with AVA, the Asian Venous Academy, an independent academic institution based in Hong Kong. AVA, created in 2018, promotes education and collaboration across Asia while actively engaging with the global medical community, highlighting a growing, two-way exchange of knowledge.

I had the opportunity of exchanging mails with Dr Xin Du, Attending Physician and Medical Director of Beijing Dr. Smile Vein Center, a vascular surgeon specializing in the diagnosis and treatment of lower-limb varicose veins, with a particular focus on the CHIVA technique.

She accepted to be interviewed as a reference of phlebology experience in the other half of the world, till relatively little known.

Thank you for your availability in sharing your experience and insights on venous disease management and the application of the CHIVA method. Below are some

questions that will help us better understand your clinical approach and perspective.

Interview with Dr Xin Du

Question - As a vascular surgeon, how did you approach venous diseases? Was it a primary interest or a secondary opportunity?

Reply - As a vascular surgeon, I was naturally exposed to venous diseases such as varicose veins and venous thrombosis, which are common in daily practice. However, venous disease was not my primary academic focus at the beginning of my career. In those years, the dominant treatments for varicose veins were stripping and, later, endovenous thermal ablation such as radiofrequency and laser. These were largely ablative approaches. At that time, I did not imagine that I would one day devote so much attention to varicose vein disease. My main clinical interest was still in aortic and peripheral arterial disease.

This changed around 2017, when I left my previous institution and joined Dr. Smile Medical Group. There, I began to formally practice CHIVA, a strategy centered on venous preservation and correction of pathological venous hemodynamics. Very soon, we recognized that CHIVA was not simply another technical option, but a different way of understanding venous disease. It offered clear conceptual and clinical advantages, but it also raised many practical questions in our early experience.

For that reason, in 2017, I went to Europe on behalf of our medical group, bringing with me the questions that our doctors had encountered in practice. We visited Professor Claude Franceschi and Professor Roberto, exchanged ideas with them, and observed their clinical work. In the same year, our group stopped using radiofrequency ablation, stripping, and other conventional ablative pathways, and began to focus on CHIVA. The week in Cremona had a profound influence on me. Through direct observation and discussion, I developed deep respect not only for their academic work, but also for their integrity, values, and medical philosophy. Many of the questions we brought with us were clarified during that visit, which gave us much greater confidence in CHIVA and in its future.

After returning to China, we substantially revised our previous practice. Gradually, through the lens of venous hemodynamics, I began to see the scientific depth and intellectual beauty of venous disease. I have always believed that preserving function and minimizing unnecessary trauma represent an important direction for the future of surgery. From that point onward, my colleagues and I truly began to place CHIVA on a sustainable path of development in China.

Q - Did you start treating varicose syndrome with traditional surgery, endovenous procedures, or sclerotherapy? What was your training pathway and apprenticeship? Which is the most adopted treating method in your country?

R - I began clinical practice in 2006. My first operations for varicose veins were high ligation, stripping, and stab avulsion. This approach had been introduced to China from Australia by the director of my hospital at that time. In that era, it was already less invasive than the segmental excision techniques still used in many hospitals.

At that time, I was working and training in the Department of Vascular and Endovascular Surgery at the Chinese PLA General Hospital, one of the leading hospitals and vascular surgery centers in China. Later, I also performed DSA-guided foam sclerotherapy.

Around 2015, I went to Germany to learn a comprehensive sclerotherapy protocol. Subsequently, when radiofrequency catheters entered Chinese clinical practice, I also tried laser and radiofrequency ablation. In other words, before I formally adopted CHIVA, I had already practiced conventional surgery, sclerotherapy, and endovenous thermal ablation.

I began to formally practice CHIVA in 2017 at Dr. Smile Medical Group. During this process, we came to a very important realization: for a vascular surgeon, ultrasound is not merely an auxiliary diagnostic tool. It is the essential instrument for understanding venous hemodynamics. At that time, however, very few vascular surgeons in China personally performed systematic ultrasound-based hemodynamic analysis. Most still relied on reports from the ultrasound department.

After my visit to Europe in 2017, Professor Franceschi generously shared with us a large amount of his clinical experience and teaching material. I brought these materials back to China, and we studied, discussed, and applied them within our team. This process was extremely valuable.

In 2019, we organized the first academic conference in China dedicated to venous hemodynamics and established a national academic committee in this field. The meeting invited Professor Franceschi, Professor Roberto, and several leading Chinese vascular surgery experts. I served as the practical organizer and executive secretary-general of the conference. I still remember that there were not enough seats in the conference hall, and many doctors stood throughout the lectures. This showed that Chinese doctors had a genuine curiosity about this new way of thinking.

After that meeting, the dissemination of CHIVA in China gained momentum, and more doctors began to try

it. At the same time, our own experience made us realize that CHIVA requires systematic training and a fundamental change in clinical thinking. This is both its value and one of the major reasons why it is difficult to disseminate.

This was also one of the motivations behind our collaboration with the American non-profit certification organization Inteleos in 2021 to establish the Global CHIVA Program. The program was officially launched in 2022, with the support of approximately 75 experts worldwide. Modules 1 and 2 have already been released, and Modules 3, 4, 5, and 6 are planned to follow.

In China, CHIVA remains a relatively niche and controversial approach. This may be related to reimbursement issues, the learning curve, and the fact that it requires doctors to change the way they understand and evaluate venous disease.

According to a published study around 2017, conventional stripping was still the dominant treatment for primary lower-limb varicose veins in China, followed by radiofrequency and laser ablation. This was consistent with our clinical impression.

Over the past years, with the continuous efforts of Dr. Smile Medical Group, I have observed a clear increase in the number of doctors performing CHIVA, and patient awareness has also improved considerably. However, we still do not have precise national data to quantify this change.

Overall, the spread of CHIVA among doctors remains much slower than that of device-driven methods such as radiofrequency ablation. With strong promotion by companies such as Medtronic, radiofrequency ablation has developed rapidly in China in recent years. At present, device-driven ablative treatments still dominate the treatment landscape for lower-limb varicose veins in China.

Q - When did your interest in the CHIVA method begin, and how was it implemented in practice (in terms of patient acceptance, colleagues, and administrative support)?

R - My systematic interest in CHIVA truly began in 2017. That year, I had the opportunity to establish a direct academic connection with Europe on behalf of Dr. Smile Medical Group. What convinced me was not only the clinical logic of CHIVA, but also the personal integrity and medical philosophy of the European experts we met.

Before that, we had heard many rumors about CHIVA, including claims that it was a "fraud." Direct contact with Professor Franceschi and Professor Roberto helped us understand that many of these claims were based on misunderstanding or hearsay. It also gave us a much more complete and confident understanding of CHIVA.

In terms of implementation in China, I believe Dr. Zhang Qiang and the team of Dr. Smile Medical Group played an important role. Dr. Zhang began paying attention to CHIVA and introduced it into China around 2011. After my visit to Europe in 2017, our group decided to replace radiofrequency ablation and stripping with CHIVA. In 2019, we began to disseminate CHIVA more formally within the Chinese medical community through academic activities. Over the years, we have continued academic communication with doctors and public education for patients.

The attitude of colleagues has changed gradually. At first, many doctors did not believe in CHIVA, resisted it, or even criticized it. Later, some of them began to understand it, recognize its value, and express interest in learning it. The momentum has gradually increased, but the challenges have never disappeared. I would like to share one case that illustrates the difficulties we faced.

In 2019, I treated a patient with CEAP C3 lower-limb varicose veins using CHIVA. After the procedure, the varicose veins improved well. The GSV showed deflux, the re-entry point of N2 was located around the knee, the N3 varices retracted satisfactorily, and the hemodynamic circuit appeared favorable. However, the patient felt that her subjective leg heaviness had not improved significantly. Before treatment, I had clearly explained to her that no treatment for varicose veins can guarantee complete resolution of leg heaviness, because heaviness and aching may have many causes beyond superficial venous reflux.

Later, she consulted another doctor who performed radiofrequency ablation. That doctor told her that CHIVA was not recommended in Europe, was even "forbidden" in Germany, and was a pseudoscientific technique. He therefore believed that we had deceived her and encouraged her to confront us and seek compensation.

At the same time, the patient underwent repeated ultrasound examinations in several hospitals. Because these examinations lacked a hemodynamic perspective, the treated areas were repeatedly described using terms such as "reflux" or "thrombophlebitis-like changes." Over the following years, the patient repeatedly posted critical and accusatory statements online about Dr. Zhang Qiang and me. In China, criticism of doctors can easily gain emotional support on the internet, and we faced considerable psychological pressure and reputational damage.

At the suggestion of that doctor, the patient also underwent CT venography. In fact, the CT venography demonstrated what we considered a good postoperative CHIVA result: the GSV trunk was preserved, its diameter was only about 3 mm, and the perforating veins were functioning well. However, because the radiologist did not understand the hemodynamic logic of CHIVA, these

findings were interpreted as evidence that the vein had been "damaged."

Even more concerning, the same doctor suggested closing this preserved vein with radiofrequency ablation simply because the flow was caudal, although in the CHIVA context this was physiological downward flow rather than pathological reflux.

At that time, we wrote to European and German colleagues for clarification. Ms. Mendoza replied clearly that the claim that "CHIVA is forbidden in Germany" was a rumor. Meanwhile, in China, we cooperated with medical appraisal and judicial evaluation processes, and we also had to respond to public opinion in order to protect CHIVA. In my view, the root cause of this conflict was not the patient herself, but the lack of hemodynamic knowledge and the confusion of key concepts.

Later, as CHIVA was included in Rutherford's Vascular Surgery, and as more international publications and evidence-based data became available, the claim that CHIVA was "forbidden in Germany" gradually disappeared from the discussion. The debate then shifted to other technical questions, such as whether Shunt III should be treated in a single session.

With the support of published evidence, international guidelines, and domestic appraisal results confirming that our treatment did not constitute medical malpractice, this public controversy gradually subsided by the end of 2024.

This experience affected me deeply. A CHIVA physician can sometimes feel quite isolated. At the same time, I also gained strength from the unity and integrity of our team, and from the support of European colleagues and academic evidence. That support was important not only academically, but also personally.

Q - Is saphenous vein preservation considered an important issue in your country?

R - To be frank, before we began to promote this concept, preservation of the great saphenous vein was not widely regarded as an important issue in China. Even today, many doctors still oppose or underestimate the value of preserving the GSV.

Some experts have publicly expressed views such as: "If the great saphenous vein is already diseased, what is the value of preserving it?" or "This vessel is not important; some people are making a simple problem unnecessarily complicated." Behind such comments, there is sometimes an implication that vein preservation is promoted for financial reasons, or that it makes treatment appear more complex than it really is.

To some extent, this reflects a broader tendency: the value of a device or procedure is often more easily recognized than the value of a physician's cognitive work and hemodynamic judgment. Some doctors also argue that CHIVA is not technically difficult, but that the preserved saphenous vein may not be usable for future bypass surgery, and therefore the so-called value of preservation is merely a slogan. However, in my view, the value of preserving the saphenous vein should not be reduced only to its potential future use as a bypass conduit. It is also about preserving venous function, preserving the venous network, and reducing unnecessary destruction.

After years of academic communication and patient education, some doctors in China have gradually begun to accept the preservation concept. Interestingly, patients often accept this idea more readily than doctors. I think this may be related to traditional Chinese cultural thinking. Many patients intuitively feel that if their own tissues and organs can be preserved, they should not be removed or destroyed unnecessarily.

Therefore, in China, there is a noticeable difference between doctors and patients in their instinctive response to preservation. Doctors are often shaped by previous training and mainstream procedural pathways, whereas patients frequently have a natural resonance with the idea of preserving as much as possible and minimizing injury.

Q - Do you have direct or indirect experience using a refluxing saphenous vein as an arterial substitute

R - Earlier in my career, I focused mainly on arterial disease, and I attached great importance to autologous bypass for long-segment superficial femoral artery occlusion. One case left a particularly deep impression on me. The patient was a man in his fifties who underwent stenting for superficial femoral artery occlusion. Six months later, the stent occluded, and he underwent repeat stenting. During the second procedure, in order to cross the recurrent occlusion, the stent also covered the profunda femoris artery. Six months later, rest pain returned, and balloon angioplasty was performed. Another six months later, he developed acute thrombotic occlusion and ultimately required amputation.

That case made me much more cautious about relying excessively on repeated stent reconstruction while neglecting long-term vascular strategy. At that time, for patients with superficial femoral artery occlusion, I usually considered supervised or structured walking exercise as the first-line strategy whenever possible. If a patient could improve the claudication distance from 200 meters to 500 meters, I considered that a meaningful result. If symptoms still could not be adequately controlled, I would prioritize great saphenous vein bypass, with prosthetic grafts as a secondary option. Of course, this experience also made me aware that not every great saphenous vein is suitable for bypass. Therefore, my recognition of CHIVA today is not

based only on the argument that the saphenous vein should be preserved for possible future arterial reconstruction. More importantly, CHIVA emphasizes preservation of venous function, preservation of the venous network, and correction of the current problem with the least necessary trauma. This is, in my view, a more universal surgical value.

Q - Do you carefully select patients for CHIVA treatment, or do you consider the method applicable to all anatomical and clinical situations? What alternative options do you offer?

R - I do select patients carefully, and I do not consider CHIVA suitable for every anatomical pattern or every clinical situation. I am particularly cautious with Shunt III cases. For example, when a patient has a large N2 trunk, an unfavorable hemodynamic circuit, large varicose clusters, limited understanding of the value of vein preservation, and difficulty accepting either staged treatment or temporary residual visible filling after the procedure, I may recommend another option. In such cases, I may advise the patient to choose a treatment that the local hospital performs more routinely, such as conventional stripping or radiofrequency ablation.

This is not a rejection of CHIVA. It is a practical decision based on anatomy, hemodynamic feasibility, patient understanding, expectations, and cooperation. We are also particularly cautious with female patients who have thin skin and very high cosmetic expectations. In such cases, we spend more time explaining the advantages and disadvantages of different strategies, the expected cosmetic evolution, and the possibility that visible veins may take time to retract. In my practice, CHIVA is never a "one-size-fits-all" procedure. It must be based on anatomical conditions, hemodynamic assessment, patient expectations, and the patient's ability to understand and cooperate with the treatment strategy.

Q - Do you personally perform ultrasound assessment and venous mapping?

R - Yes. In our medical group, every doctor has access to an ultrasound machine and personally performs venous flow analysis. In our system, this is mandatory, not optional. In China, many ultrasound physicians do not have specific training in hemodynamic venous assessment, and most vascular surgeons are not accustomed to personally performing detailed venous mapping. Therefore, we strongly emphasize that a CHIVA physician must personally master ultrasound and hemodynamic mapping. This is the foundation for identifying pathological circuits and designing individualized treatment strategies. At present, we are also exploring AI-assisted software modules to guide the workflow of venous hemodynamic ultrasound assessment. Our hope is that AI may help standardize the examination process in the future. If AI can provide reliable workflow guidance and quality control, it may be valuable not only for CHIVA but also for the broader field of venous hemodynamic assessment.

Q - Is the CHIVA procedure office-based, or does it require hospital admission?

R - In our practice at Dr. Smile Medical Group, CHIVA is mainly performed in an outpatient setting and usually does not require hospital admission. At present, we have four self-owned CHIVA centers for lower-limb varicose veins in mainland China, located in Beijing, Shanghai, Shenzhen, and Jinan. All of them follow an appointment-based outpatient pathway. In a typical case, the patient undergoes clinical evaluation and hemodynamic ultrasound assessment in the morning, receives treatment in the afternoon, and is encouraged to walk soon after the procedure. For most patients suitable for outpatient management, the whole process can usually be completed within one day.

We believe that the value of this outpatient model lies not only in efficiency, but also in reducing the psychological burden often associated with the word "surgery," while facilitating an earlier return to normal daily life. Of course, medical systems and clinical routines vary across hospitals, countries, and regions. Some institutions may still perform CHIVA during hospitalization, while others may use a day-surgery or outpatient model.

In recent years, we have also been exploring how to further standardize the clinical workflow, patient management system, and quality-control modules that we have developed through long-term practice. We have established our own MSO in the United States, and we also have a clinical and innovation center in Hong Kong. In the future, we hope to transform this outpatient management model into a more reproducible international operational framework.

However, one point must be emphasized: the clinical workflow can be standardized, but the CHIVA strategy itself should never be reduced to a simple template. The essence of CHIVA remains a highly individualized treatment strategy based on each patient's venous hemodynamic assessment. What we aim to standardize are the assessment process, perioperative management, follow-up system, and quality control-not the use of one uniform treatment pattern for every patient. This has always been our direction: standardized workflows to ensure safety and efficiency, and individualized hemodynamic strategies to preserve the true value of CHIVA.

Q - Is the presence of an anesthesiologist required during the procedure?

R - In our practice, an anesthesiologist is not required. We use local anesthesia at selected points, and the procedure is performed without anesthesiologist

involvement. This is related to the limited trauma and precise treatment range of CHIVA. With appropriate patient selection and technique, local anesthesia is generally sufficient.

Q - Is local anesthesia the only analgesic method you use, or do you combine it with other drugs, acupuncture, or general anesthesia?

R - In our current practice, local anesthesia is the only procedural analgesic method we routinely use. We do not routinely combine it with acupuncture, general anesthesia, or other analgesic protocols. However, we usually recommend oral ibuprofen before treatment and during the first three days after treatment, unless contraindicated. Overall, our goal is to complete the procedure with an analgesic strategy that is simple, clear, and low-burden for the patient.

Q - When treating junctional incompetence, do you prefer: Crossotomy (high ligation with possible tributary sparing), Traditional crossectomy (high ligation with tributary interruption), or Endovenous ablation (with stump preservation)?

R - When treating junctional incompetence, we generally favor crossotomy-that is, high ligation at the junction with preservation of tributaries whenever possible. In most cases, we do not rigidly pursue traditional flush ligation as an absolute form. Instead, we aim for a sufficiently high ligation while maintaining procedural safety. Our guiding principle is to reduce unnecessary destruction while achieving the intended hemodynamic effect. In other words, we pursue functional precision rather than anatomical radicality.

Q - How do you manage tributaries (phlebectomy, sclerotherapy, disconnection)?

R - For tributary veins, we usually perform disconnection at the N2-N3 escape point and remove approximately 3-5 cm of the involved segment. For N2-N3 escape points, we generally try to achieve a relatively complete disconnection close to the junction in order to minimize residual small tributaries around the escape point.

In selected N3 cases-for example, an anterolateral thigh accessory pathway without an adequate drainage circuit-we may add a few localized phlebectomy points, depending on the hemodynamic circuit, patient expectations, and vessel characteristics. This may partly address cosmetic concerns while still respecting the overall hemodynamic strategy.

For selected cases with scattered pelvic-origin escape points, I may consider sclerotherapy in order to avoid perineal incisions. This requires careful preoperative communication and exclusion of contraindications. Overall, I believe that different technical methods can be used within the same strategic framework, provided that the hemodynamic principle remains clear. The key is not the name of the technique, but whether it serves the overall hemodynamic objective with an acceptable risk–benefit profile.

Q - Do you treat Shunt III cases in two stages according to the CHIVA protocol, or do you prefer a single-stage treatment?

R - I do not use a single fixed strategy for Shunt III cases. The decision depends on anatomy, hemodynamics, risk structure, and patient expectations. Some patients are advised to undergo conventional surgery. Some can be treated in a single session. Others are better managed with staged treatment. For staged treatment, I currently use two main pathways.

The first is to treat the N1-N2 escape point first. These patients usually have a relatively large N2 trunk, often greater than 8 mm in diameter. In such cases, the risk of thrombosis within N2 after treatment may be higher. Therefore, we first close the N1-N2 escape point and then decide on the second step according to subsequent hemodynamic changes. The second pathway is used for patients with a smaller N2 trunk, usually less than 7 mm. In these cases, we may first close the N2-N3 escape point and then determine whether the N1-N2 escape point also requires treatment. However, based on our current observations, it is rare for patients to completely avoid later N1-N2 treatment after only the first step. In our northern center, there have been only about two or three such cases. Therefore, at present, my overall tendency is still to treat the N1-N2 escape point first in most suitable Shunt III cases.

For patients treated in a single session, the majority recover well. In a small number of cases with a more pronounced phlebitic process, new N2-N3 escape points may later appear. For these patients, we currently provide complementary treatment without additional charge. I also have a personal observation. In selected cases, I sometimes preserve part of the N2-N3 escape pathway, allowing the N3 circuit to contribute to N2 drainage. In our current experience, some patients in this situation still achieve meaningful symptomatic improvement. Therefore, for certain suitable ODS-type circuits, I may preserve them as functional drainage pathways rather than close them indiscriminately. Of course, the number of such cases is still limited, and further accumulation and observation are needed. Overall, in Shunt III management, I am increasingly inclined toward a more refined stratification based on circuit quality and risk structure, rather than the mechanical application of a single pattern.

Q - In CHIVA 2 cases, how long do you usually wait before verifying the need for the second session and with which criteria?

R - We usually ask patients to return for reassessment at 3-6 months before deciding whether a second session is necessary. If the first procedure was step 2, we focus on whether the N1-N2 escape point persists and whether a new N2-N3 escape point has appeared. If the first procedure was step 1, we pay more attention to the degree of improvement in clinical symptoms and cosmetic appearance before deciding whether further treatment is needed. Therefore, our decision is not based on time alone. It is based on the combination of hemodynamic changes, symptom improvement, cosmetic evolution, and whether the expected treatment goal has truly been achieved.

Q - What is the incidence of cases treated only with the first session (without junctional intervention) in Shunt III?

R - In our practice, such cases are very rare. Based on our current experience, most Shunt III cases ultimately still require management of the junctional problem, although the timing and sequence of treatment may vary according to the individual hemodynamic situation.

Q - Do lower limb varices of pelvic origin require a specific treatment approach in your practice?

R - Yes. I believe lower-limb varices of pelvic origin require specific attention to the pelvic venous component. After CHIVA treatment, I usually recommend further pelvic venous ultrasound assessment to determine whether pelvic venous hypertension or pelvic-origin abnormal flow is present. If there is clear evidence of pelvic venous hypertension or a pelvic-origin source, pelvic venous sclerotherapy or embolization may need to be considered. I have performed these procedures in the past. In these cases, I prefer to interpret the lower limb and pelvis within the same hemodynamic framework, rather than focusing only on the visible varices in the leg.

Q - How do you manage patients presenting with open venous ulcers?

R - For patients with open venous ulcers, we usually assist with one session of debridement after CHIVA treatment and teach the patient how to perform moist wound care. Overall, these patients often achieve favorable results. Regarding the sugar-vaseline preparation mentioned by Professor Franceschi, we have previously tried to prepare it ourselves. However, this approach carries certain legal risks in China, and some patients reported significant pain. For these reasons, we have not adopted it on a large scale. In the current Chinese clinical environment, we prefer wound-care pathways that are compliant, reproducible, and acceptable to patients.

Q - What is the recurrence rate in your experience, and which types of recurrence are most frequent?

R - In the early stage of our CHIVA practice, the recurrence rate was approximately 7%. As our strategy became more refined, it decreased to around 4.5%, with a mean follow-up of 76 months. Regarding recurrences related to the saphenofemoral junction, we mainly observe two patterns. The first is in situ recanalization. The second is recanalization through a neovascular network.

In situ recanalization appears to be related, at least in part, to the ligature material. In the early stage, we commonly used thick silk sutures. Later, after recognizing the possible limitations of silk, including absorption and insufficient long-term tension, we switched to thicker PROLENE sutures. Since then, in situ recanalization has become very uncommon. At present, we are more focused on reducing recurrence through small neovascular networks. In the early stage, our ligation site was relatively low. After refining our technique, we now try to place the ligation higher, and in suitable cases, as close to flush as reasonably possible. Preoperatively, we also try to identify small veins associated with lymph nodes and close the main trunk proximal to their drainage site, hoping to reduce recanalization through lymph-node-related veins and neovascular channels.

We are still considering several important questions: Which patients are more prone to this type of recurrence? Could obesity, iliac venous hypertension, or other factors contribute? Once such networks appear, what is the most rational way to manage them? Another point is important. Because CHIVA is a vein-preserving treatment, once neovascular connections create new pathways, patients may notice what looks like recurrence earlier than patients who have undergone ablative treatments. This should not be simplistically interpreted as evidence that CHIVA has a higher recurrence rate, as some doctors unfamiliar with CHIVA may claim.

In China, some doctors attribute lymph-node-related venous recurrence and neovascular networks mainly to the incisions used in CHIVA. On this basis, they advocate closing a 7-15 cm segment of N2 with radiofrequency ablation and call it "endovenous CHIVA," even presenting it as the future direction of CHIVA. We clearly disagree with this view. In our opinion, this approach exposes patients to additional heat-related risks and unnecessary loss of the venous network. With the involvement of device manufacturers, however, it has been actively promoted in China. In my view, it would be more accurate to describe this approach as hemodynamics-guided endovenous ablation, rather than labeling it as CHIVA, because doing so may confuse an ablative endovenous procedure with a genuinely vein-preserving hemodynamic strategy.

Q - Could you describe the most common complications or inconveniences and how you manage them?

R - Most patients recover smoothly and comfortably. If I were to identify the aspect of CHIVA that I most hope to improve further, it would be cosmetic retraction. Although most patients experience good retraction of the varicose veins, approximately 10% still retain a certain degree of natural visible filling. This may be related to venous wall tone, anatomical location, and whether the vein continues to function as part of a drainage circuit.

This is also the point most easily misunderstood by the public. Many patients intuitively believe that if a vein is still visible, the treatment has not been successful. However, in a vein-preserving strategy, visibility does not necessarily mean failure. To address this, we currently provide additional follow-up assistance without extra charge. If certain veins show unsatisfactory retraction while the necessary hemodynamic circuit is preserved, we may perform localized phlebectomy according to the specific situation.

As for phlebitis, the overall incidence of symptomatic cases is not high, and we have accumulated considerable experience in both management and patient communication. In other words, the main inconvenience of CHIVA is often not a severe complication, but the need for patients and doctors to correctly understand the natural evolution of a vein-preserving result.

Q - What are the costs of the different procedures in your country (e.g., China)? Is CHIVA reimbursed within the healthcare system? Is there a public health system that covers varicose vein treatments?

R - In China, CHIVA is currently a fully self-paid procedure and is not covered by basic medical insurance. Some high-end commercial insurance plans may cover it, but not all insurers recognize it. For example, some insurers such as MSH are currently not favorable toward CHIVA and therefore do not approve reimbursement for it. For other doctors performing CHIVA, the cost for one leg is approximately RMB 15,000-17,000, usually excluding subsequent follow-up and complementary treatment.

In our own medical group, CHIVA for one lower limb is charged as a package, with fees of RMB 28,000 or RMB 42,000. This is a one-time payment model that includes long-term follow-up and complementary management without additional charges. In other words, subsequent follow-up visits, complementary treatment, and recurrence-related management are included. By comparison, conventional stripping is usually covered by basic medical insurance, and the patient's out-of-pocket expense is approximately RMB 4,000-8,000. Radiofrequency ablation has been included in the basic medical insurance system in some provinces and cities, and the patient's out-of-pocket expense is approximately RMB 8,000-13,000. However, this varies considerably depending on the doctor, hospital, region, and disease complexity.

These figures refer only to direct medical costs. They do not include indirect costs related to hospitalization, such as family accompaniment, caregiving, transportation, or time away from work. At present, China's public basic medical system generally applies DRG-based payment for lower-limb varicose veins. As far as I know, the reimbursement package is approximately RMB 8,000-17,000 per case, although this depends on the specific procedure and the payment standards of different cities and regions.

Q - Why such an extensive clinical experience as the one you present has not yet been reported in the available scientific literature?

R - We tried in the past to publish our clinical experience in Chinese journals. However, manuscripts on CHIVA-related clinical research were repeatedly rejected during peer review. The usual comments were that CHIVA was still regarded as an uncertain or unfamiliar technique in China, and therefore was not considered suitable for publication as clinical evidence.

This was discouraging, but it also reminded us that we needed to continue accumulating larger clinical data, longer follow-up, and a more structured presentation of our results.

At present, we are preparing English manuscripts, presenting our work systematically to the international scientific community, in accordance with the required conventions. We believe that such extensive clinical experience should eventually be reported, discussed, and evaluated in the scientific literature.

Dr Xin Du

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*Not "victoria", as she desired, as it was already taken, she tells joking.

Comment to the interview

Thank you again for your valuable contribution. Your experience will certainly provide meaningful insights for colleagues working in the field of venous disease.

It is both interesting and unsurprising to observe that, on the other side of the world—often perceived as distant and in some ways mysterious—approaches to varicose vein treatment are not so different from our own. The same dislike to conservative attitude can be found, along with the typical academic scepticism that tends to favour ablative methods rooted in longstanding global traditions, now further reinforced by technological advancements.

It would be valuable to understand how many colleagues in your country—so vast and diverse—were influenced by your efforts and have adopted this philosophy. In Europe, there is a strong yet relatively isolated group of proponents who still face challenges in disseminating these ideas more widely.

In the Americas, however, even the underlying concept is often found with resistance or outright rejection. For this reason, the attempt to introduce and establish the CHIVA strategy in the United States is particularly fascinating.

Above all, the enthusiasm I can sense that in the replies to my questions there is a powerful reflex of the optimism that currently inspires your part of the world.

Prof Stefano Ricci