- Good morning. I am Enrico Ascher. I'm a professor of surgery at NYU, and also I'm the co-chair of the VEITHsymposium.

Benefits and Limitations of TCAR

Well, there are many benefits to TCAR, as we call it. The one very attractive aspect of TCAR is that we use neuroprotective flow reversal, during the placement of the stent. So, whatever plaque is dislodged, or any junk that goes in the carotid artery, is been sucked in, filtered, and then the rest of the blood goes into the venous system. So this is a very attractive concept, which was developed by Dr. Juan Parodi. The other aspect that's advantageous to TCAR, is that you make a small incision in the neck, and you're able to bypass all the potential hazards of a very diseased aortic arch, or very tortured aortic arch. So all of this is being eliminated, by making a small incision at the base of the neck for about two centimetres, you get the common carotid artery, and then you place the sheath. And from there you have already a flow reversal since the other portion of the device is placed into the femoral vein. So there are, those are the main advantages, the flow reversal, and the fact that you bypass the aortic arch.

Mini-Incision CEA Protocol

The mini-incision carotid endarterectomy was developed by me, in 2002. When I had a patient with a very thin neck, and she did not want to have a long incision in the neck. She was really adamant, and she asked me if I could do anything to make a small incision, rather than a long incision. So of course, I didn't want to jeopardise her health. And I had to do something that I felt was very safe while making a small incision. So I thought about using the ultrasound, to find, to delineate the site of the plaque, where the plaque is exactly. Most probably, at the level of the bifurcation of the carotid artery. But most surgeons, and the way standard endarterectomy was developed, was because with a long incision, is because we don't know where the bifurcation of the carotid arteries in the neck. It can very dramatically, can be just at the level of the jaw, or it can be all the way, very down close to the clavicle. So that way, using an ultrasound, you can delineate exactly where the plaque is, in the internal carotid artery. And also you can follow it proximally, and see how far it goes. So you make an incision right over that area. And within one-inch incision, in 85% of the patients, you can remove that plaque instated of making a six to nine-inch incision. So that's how we started. And I published this paper. The first paper, with over 200 cases in the journal vascular surgery, all the way back in 2005. It has been taking some time to, for the procedure to become, but slowly picking up, like you know, many of the things that we develop takes about 20 years to become popular. But I think mini-incision carotid endarterectomy, is certainly a safe alternative to all other procedures, including standard endarterectomy. Now, just as a, just to make sure that I am not speaking in the name of the VEITH organisation, or New York University, this is all personal opinion. And some of it is based on my personal experience, and not necessarily on published data. Like we said, it's cheaper. Why I believe mini-incision carotid endarterectomy is cheaper? Is because is a knife basically, it's a blade, instead of an apparatus that is much more expensive. But I have not done a prospective study, to evaluate actually, the overall cost. It's just a feeling, that if you use a blade that's very cheap, in comparison to a TCAR apparatus, that the procedure is going to be safer overall. And hopefully, this will be shown in the future.

The Use of CEA

CEA has been shown since, you know, the last five decades, six decades actually, to be superior to medical treatment, especially in symptomatic patients, If somebody had a stroke, the chances of having another one is significantly high. And therefore, you have a window of opportunity to remove that plaque, that's causing these problems for the patient in a very safe manner, with a very low mortality and morbidity. To a point that surely, the benefits outweigh the risks, of the operation. And this has been shown also in asymptomatic patients with stenosis that are over, at least over 80%, or over. So when you have a significant stenosis, in a good-risk patients, it seems to me, based on what I've read in literature and my own experience, that is probably worthwhile to do the carotid endarterectomy, rather than just observe it on medical therapy. Medical therapy is always good to give no matter what, we're going to give, we going to do a procedure or not. We should add the medical therapy, aggressive medical therapy, to prevent further deterioration of the vessel. but it does not, is not at this point, is not a safe alternative to carotid endarterectomy in good-risk patients. However, if the patient is a very high risk, probably is not worthwhile to do a carotid endarterectomy in asymptomatic patients.

Patient Recommendations

All patients that do not have, they not morbidly obese with a lot of fat in the neck, A lot of adipose tissue in the neck, that makes the approach very deep. And patients that have a very high lesion, and also patients that have had previous operations in the neck such as, carotid endarterectomy. If it's a redo operation, I think that standard stenting or TCAR are a better option than a mini-incision carotid endarterectomy. It can be done still. I'm not saying cannot be done, but it will be much more work. And I feel just, it's better to be expeditiously performed than a procedure that take hours because of the scar tissue, surrounding the nerves and the vessel itself.

Future Research

I think other institutions besides ours, and I know that several other very good vascular surgeons has adopted successfully the mini-incision endarterectomy. And they felt, the same as I do, it's safe, and is not costly. And it's less costly, than other alternatives. Now, what to do now? I think one, or several institutions should get together, and do a prospective randomised study, which will be ideal. Between TCAR, which also has some limitations in terms of the length of the carotid, the common carotid artery that's necessary to place the shunt, I'm sorry, the sheath and other limitations that has been well-described in the literature. So, I think we need to find out for all comers, how often mini-incision carotid endarterectomy, was able to be done successfully. And versus TCAR, what is the standard endarterectomy. People have to start think about, mini-incision carotid endarterectomy. Is a procedure, that have lasted for a long time and it is picking up in popularity, very significantly particularly in Europe, and in some areas of the United States. So we need the studies, prospective studies to prove that mini-carotid incision, mini-incision carotid endarterectomy, is safe, does not incur any more damage. You can see the end of the plaque clearly, and actually in my own bias, bias opinion, of course, because it has not been shown by other people. That a smaller incision is safer because there's less nerve damage than when you have a long incision when the chance of injuring the nerve is much higher. Just my message to those surgeons, that vascular surgeons or neurosurgeons, whoever wants to do the mini-incision. Is that, start your experience with a patient who has a thin neck, and you see how easy, and how satisfied you'll be at the end of the procedure. One inch incision. You can always extend the incision if it's necessary. But that's going to only happen in 15% of the patients. And you going to basically extend for about one centimetre or two. You not going to extend it in terms of inches, as the standard endarterectomy, it's currently described.