- My name is Doctor Ta-Wei Su, and I'm a vascular surgeon in Chang-Gung Memorial Hospital, Taiwan. This year I was invited to have a talk about how to preserve the internal iliac artery in EVAR procedures.

Internal Iliac Artery Preservation Procedure

According to the literature, up to 30% AAA evolve with iliac artery aneurysms. In order to cure, the distal sealing embolization of the internal iliac artery, it's a standard method. However, blocking the flow of the internal iliac artery will lead to some complications and deteriorate patients' quality of life. By anatomy, internal iliac artery flow supplies three major organs; bladder, rectum and uterus, and the three main areas are the perineum, inner leg and buttock. So after embolization, the flow of the internal iliac artery is blocked and some complications occur. For example, 50% of patients complain of buttock complication and 30% complain of sexual erectile dysfunction, and up to 9% of patients have the colon ischemia. So in the past few years, several doctors proposed the strategy to preserve internal iliac artery, such as the bell-bottom technique, trifurcation technique. And in our department we use the IB, and sandwich technique widely used in our team.

Uses and Challenges

I can say in the case, the blocked flow of the internal iliac artery is planned to be blocked or embolized in the procedure, the technique to preserve the internal iliac artery, it should be considered to use. That means this procedure is used to treat most iliac aneurysms. In the pre-operative planning, we carefully evaluate the morphology and anatomy of the iliac aneurysm, and deliberate how to preserve the normal flow. Like other aortic interventions, we have to understand the technique itself and the device we may use. Each technique has its own concept and skill. In pre-operative planning we should think about these key points. The first question is, should we preserve the internal iliac artery flow and the second, which technique fits the anatomy and morphology of the aneurysm? And the last question is, what is the challenges in the procedure? The challenge is how to cannulate into the internal iliac artery, and also how to deliver or advance the device into an internal iliac artery. Take the IB device, for example, keep the flow it's a very important issue because the tortuosity or the calcification of the internal iliac artery may cause some difficulty to the doctors to advance the device into the internal iliac artery.

Differences in the Preservation of Iliac Arteries

In our practice for Asia population, the shorter length of iliac artery is a common issue. Take the IB device, as an example. In some cases after the IB deployment, the proximal part is above the contralateral common iliac artery. This will cause difficulty to cannulate and advance the internal iliac component or internal iliac stent. In some extreme case, the proximal part of the IB in distal aorta, we may consider to advance the internal iliac through subclavian artery access. And in some cases, such as Asian females, the length between renal artery to internal iliac artery is quite short. It would be very crowded to put the standard EVAR graft and IBE in such narrow and short space. From our experience, the 14 centimetre length is the shortest length we can do IBE. So these are the challenges we face in our daily practice.

Further Research

The durability of the technique is to preserve internal iliac artery. It's always the issue we concern. From current evidence and our team experience, the patency rate of internal EAB is quite good, more than 90%. I think we should have more evidence and start the focus on the Asia population, Asia group, to know each technique, the patency rate of internal iliac artery in each technique. The goal of any recent treatment is no longer to treat the aneurysm itself. The patient's quality of life matters, especially for the long-lived population now. To preserve the internal iliac artery flow can prevent complication and keep a quality of life. I think that you will see the trend of aortic intervention in the following decade.