Chimney technique combined with aortoiliac stenting for the treatment of juxtarenal aortoiliac occlusive disease

Suwanruangsri Veera, MD
Kaviros Pruesttipong, MD
Department of Surgery, Maharat Nakhon Ratchasima Hospital, Thailand
Disclosure

Speaker name: Suwanruangsri Veera

I have the following potential conflicts of interest to report:

- Consulting
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)

I do not have any potential conflict of interest
• A 50-year-old male presented with severe thigh claudication and absent both femoral pulses.
• The past medical problem was arterial hypertension.
• ABI of right and left leg were 0.48 and 0.54, respectively.
CT angiography showed an juxtarenal aortoiliac occlusion from the level of left renal artery to both external iliac arteries, occlusion of right renal artery and stenosis of left renal artery.
Open bypass or Endovas Tx

• What are the problems of open bypass?
1. Suprarenal aortic clamping
2. Renal ischemic time
3. Longer hospital stay
4. Longer recovery time
5. Inferior patency rate of extra-anatomical bypass
What are the problems of EVT?
1. Visceral embolization
2. Renal artery protection
3. Inferior patency rate
4. Higher reintervention rate
Stenting a juxtarenal aortic occlusion without applying the “chimney technique” carries a risk of visceral occlusion.
How to approach?

• Proximal brachial artery cutdown, 12 Fr. sheath
• Bilateral femoral access, 6 Fr. sheath
Left renal artery stenting with the Viabahn stent-graft was initially performed.
The 0.035-inch Advantage guidewire was advanced from left brachial access into right iliac artery. Retrograde guidewire was advanced from right femoral access and CART technique was performed.
• The 0.035-inch Advantage guidewire was advanced and the Epic stent was deployed just below the origin of the superior mesenteric artery from right femoral access.
• Another guidewire was advanced from left brachial access through the Epic stent and into right iliac artery.

• Crossover and snare technique was performed from left femoral access.
Crossover and snare technique
Crossover and snare technique
Another 0.035-inch Advantage guidewire was advanced into the Epic stent from left femoral access.
• The Astron stents were deployed at both external iliac arteries.

• The Dynamic stents were deployed at both common iliac arteries and infrarenal aorta (kissing stents).
• Operative time : 4 hr. 30 min.
• Flu-time : 1 hr. 13 min.
• Contrast used : 102 ml.
• At eight months follow-up, the patient was in good condition.
• ABI of right and left leg were 1.01 and 1.07, respectively.
When crossover and snare technique should be performed??

• Failure to enter into the aorta (true lumen) from bilateral femoral approach.
• Only unilateral iliac artery cannulation can be performed from brachial approach.
• Two options
  1. Crossover and snare technique
  2. Aortouniiliac stenting with fem-fem crossover bypass
231 AUI-EVAR patients

Patency@3 yr : 91%

Patency@5 yr : 83%

Wound complications : 11%

(groin hematoma 4%, seroma 3%, superficial wound infection 3%)

J Vas Surg 2003;38:498-503
Crossover and snare technique
Crossover and snare technique
Crossover and snare technique
Conclusions

• Chimney technique combined with aortoiliac stenting can be performed for the treatment of juxtarenal aortoiliac occlusive disease with acceptable short-term outcomes.

• Crossover and snare technique is a good option when only unilateral iliac artery cannulation can be performed.
Thank you for your attention
Chimney technique combined with aortoiliac stenting for the treatment of juxtarenal aortoiliac occlusive disease

Suwanruangsri Veera, MD
Kaviros Pruesttipong, MD
Department of Surgery, Maharat Nakhon Ratchasima Hospital, Thailand