

Ipsilateral Iliac Branch Repair Using a Looped Wire, Precannulated Gate Technique

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BACKGROUND

The novel approach described in the article aims to address specific challenges encountered during vascular interventions, particularly when deploying devices (such as an iliac branch excluder (IBE)) for the internal iliac artery. This case presents a unique technique that only utilizes ipsilateral femoral access to avoid the need for contralateral femoral or upper extremity access.

TECHNIQUE

- The procedure begins with percutaneous femoral access on the side of the iliac aneurysm (avoiding contralateral and upper access), followed by the introduction of a 16F sheath.
- A looped guidewire is advanced through the sheath, allowing for pre-cannulation of the internal iliac gate.
- The IBE device is loaded and deployed over the wire.
- After deployment, a steerable sheath is used to navigate the flow divider, and the internal iliac artery is cannulated and stented.
- The covered stent maintains hypogastric blood flow, avoiding complications like buttock claudication and ischemia.
- Authors have successfully performed this technique in 4 patients.
- There have been no reports of endoleaks, branch occlusions, or other complications noted at 30-day follow-up.

CONCLUSION

The technique of using a looped wire for precannulation of the internal iliac gate via an ipsilateral femoral approach offers an alternative method to maintain iliac artery patency while avoiding the need upper extremity or contralateral femoral artery access methods.

DISCUSSION

- Preservation of hypogastric blood flow is critical in preventing adverse outcomes following EVAR, particularly in complex cases with prior repairs.
- The described technique enables easy access to the internal iliac artery without the need for contralateral femoral or upper extremity access, reducing procedural complexity and risks such as stroke or access site complications.
- The use of steerable sheaths facilitates smooth navigation through the hairpin turn at the IBE bifurcation by leveraging the preloaded through wire positioned in the internal gate.
- The authors also highlight the importance of using a steerable sheath and a balloon-expandable stent to navigate the challenging anatomy around the IBE device.

The main limitations of this approach include:

- The need to fully deploy the external iliac limb before gate cannulation, which prevents further adjustments and risks device malposition
- This also limits the ability to perform "kissing balloon" dilation of both iliac stents
- Involves off-label use of the IBE device, VBX stent, and soft wire.