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# Use of a Colapinto TIPS needle under cone-beam CT guidance for re-entry in subintimal recanalization of chronic iliac artery occlusion

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**Purpose:** To report the technique and clinical outcome of subintimal re-entry in chronic iliac artery occlusion by using a Colapinto transjugular intrahepatic portosystemic shunt (TIPS) needle.

**Methods:** Patients with chronic iliac artery occlusion (including Leriche syndrome) with earlier failed attempts at conventional percutaneous recanalization by guidewire and catheter-based techniques during the past 8 years were retrospectively reviewed. In these patients, an ipsilateral femoral access route was routinely utilized in a retrograde fashion. A Colapinto TIPS needle was used to aid the true lumen re-entry if commercially available outback catheter failed or unaffordable. The puncture was directed under two orthogonal fluoroscopic views or rotational angiography cone-beam CT guidance to re-enter the abdominal aorta. Bare metallic stents of 8-10 mm in diameter were deployed and followed by balloon dilation.

**Results:** Twelve patients (11 male; median age, 75 years) were included in our investigation. The average occlusion length was 12.2 cm (range, 4-20 cm). Successful re-entry was achieved in all patients without procedure-related complications. The ankle brachial index (ABI) values increased from 0.38-0.79 to 0.75-1.28 after the procedure. Imaging follow-up (>6 months) was available in eight patients with patency of all stented iliac artery. Thereafter, no complaints of recurrent clinical symptoms

occurred during the follow-up period.

**Conclusion:** The use of Colapinto TIPS needle, especially under cone-beam CT image guidance, appears to be safe and effective to re-enter the true lumen in a subintimal angioplasty for a difficult chronic total iliac occlusion.

## Recent Publications

1. Mangialardi N, Ronchey S, Serrao E et al. (2017) Endovascular management of total juxtarenal aortic occlusive disease in high-risk patients: technical considerations and clinical outcome. *J Cardiovasc Surg* 58:422-430.
2. Kitrou P, Parthipun A, Diamantopoulos A et al. (2015) Targeted true lumen re-entry with the outback catheter: accuracy, success, and complications in 100 peripheral chronic total occlusions and systematic review of the literature. *J Endovasc Ther* 22:538-545.
3. Kim T H, Ahn J H and Kim D H (2013) A successful retrograde re-entry at aorta using the outback LTD catheter for a bilateral common iliac artery occlusion. *Catheter Cardiovasc Interv* 81:E250-254.
4. Liang G Z and Zhang F X (2013) Novel devices and specialized techniques in recanalization of peripheral artery chronic total occlusions

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(CTOs)--a literature review. *Int J Cardiol* 165:423-429.

5. **Jongkind V, Akkersdijk G J, Yeung K K and Wisselink W (2010) A systematic review of endovascular treatment of extensive aortoiliac occlusive disease. *J Vasc Surg* 52:1376-1383.**

### **Biography**

Huei-Lung Liang has his expertise in interventional radiology, including vascular intervention, TIPS and interventional oncology. Nowadays, for chronic total aorto-iliac occlusion disease, intraluminal angioplasty is usually the treatment of choice. But once it failed, subintimal angioplasty is adopted as the alternative. The re-entry is usually achieved by using an outback catheter. As the outback reentry catheter is expensive and not reimbursed in our country, for patients who cannot afford the reentry device or in rare cases that outback catheter fails reentry, Dr. Liang introduced a new reentry method by using a 16G, 45cm-in length TIPS needle instead under cone-beam CT guidance which had achieved 100% technical success without major complications occurred.

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