

Combined Laser and Drug Eluting Balloon for Percutaneous Transluminal Angioplasty of Superficial Femoral Artery Disease

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Introduction

For patient with SFA stenosis or occlusion, restenosis remains to be a problem in PTA. Here we report our unique experience to treat these patients with combination of laser and drug-eluting balloon (DEB) to achieve good mid-term patency.

Case Report

A 58 year-old heavy smoker with a history of hyperthyroidism was admitted due to worsened intermittent claudication for about one year. Left side ABI was 0.55. He was placed on aspirin 100 mg 1# po qd and cilostazo 100 mg po bid but symptoms persisted. Computed tomography (CT) of leg disclosed totally occluded distal left superficial femoral artery (LSFA) and left popliteal artery (L pop) (Figure 1).

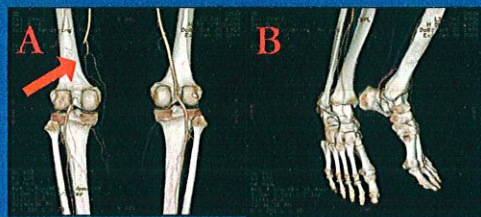


Figure 1. CT disclosed occluded distal left SFA and L poplitea artery (A) with patent left infrapopliteal arteries (B).

PTA was arranged. A 7 Fr Cook crossover sheath was advanced from RCFA to LCFA and CTO of LSFA and left popliteal artery was crossed with a .018" V18 wire subintimally under assistance of a CXI supporting catheter. Laser angioplasty with 2.5 mm Turbo Elite was performed (Figure 2).

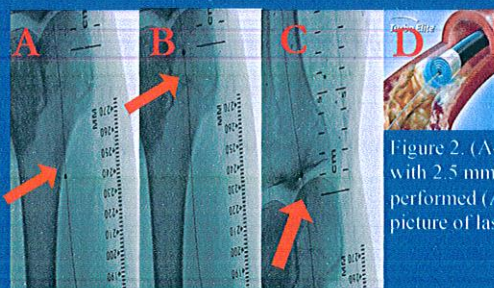


Figure 2. (A-C) Laser angioplasty with 2.5 mm Turbo Elite was performed (Arrow). (D) Cartoon picture of laser angioplasty.

Balloon angioplasty was performed with 4.0/120 mm Pacific extreme balloon at 10 atm and 5.0/120 mm Pacific extreme balloon at 10 atm. Two Drug eluting balloon (DEB) InPact DEB 5.0/120 mm balloon was inflated at 8 atm x 5 min. (Figure 3)



Figure 3. Two 5.0/120 mm InPact DEB was inflated at 8 atm x 5 min over L pop (A) and distal LSFA (B)

Angiography after PTA disclosed no residual stenosis over distal LSFA and left popliteal artery without stenting (figure 4).

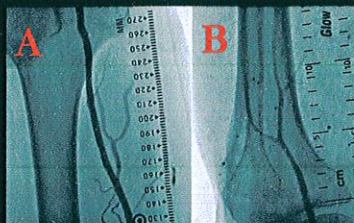
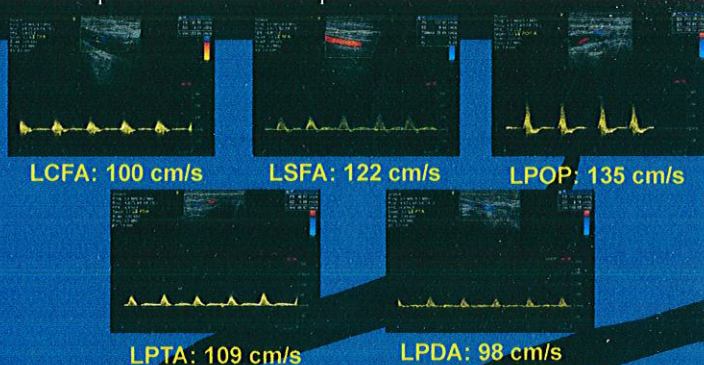


Figure 4. (A) No residual stenosis over LSFA (B) No residual stenosis over L popliteal artery with TIMI 3 flow achieved.

Followed up vascular ultrasound disclosed good flow to LSFA, L popliteal and left infra-popliteal arteries. (figure 5); ABI improved to 0.97 after procedure.



Laser angioplasty and DEB in SFA/POP CMUH experience 2013~2014

Chart No	age	sex	Rutherford	ABI	6 mo ABI	restenosis
No1	21051273	63	M	6	0.37 0.89	N
No 2	810885	81	F	5	0.42 0.85	N
No 3	272180	75	F	5	0.59 0.7	N
No 4	29359608	81	F	5	0.53 1.05	N
No 5	19966343	53	F	5	0.46 0.79	N
No 6	29001658	58	M	4	0.55 0.91	N
No 7	11027425	78	M	6	0.47 0.92	N
No 8	12172741	75	M	4	0.46 0.72	N

Conclusions

For patients with SFA stenosis/occlusion, combination of laser and DEB can achieve good mid-term patency. Long term patency needs to be further evaluated.