

Percutaneous angioplasty with drug eluting balloon for infra-inguinal venous bypass stenosis

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Introduction

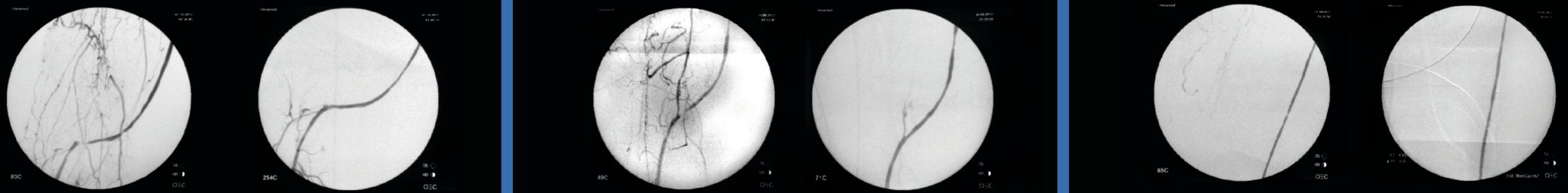
Infra-inguinal bypasses have better results with saphenous vein graft. There are 3 types of venous bypass failure: thrombosis, intimal hyperplasia and atherosclerosis. Intimal hyperplasia occurs between the third and the eighteenth month after the bypass operation. Open surgical repair is still today the best way to treat infra-inguinal venous bypass stenosis. Conventional percutaneous angioplasty doesn't

show high primary patency rates at short-term. The recent studies about paclitaxel coated balloons in peripheral arterial disease (PAD) reveal the benefits of such balloons compared to not coated balloons. We report our experience about use of drug eluting balloons to treat infra-inguinal venous bypass stenosis.

Methods and results

From November 2012 to November 2015, 9 patients with 11 infra-inguinal venous bypass stenosis had 12 dilatations with paclitaxel coated balloons. They were reviewed prospectively.

Gender & age	Bypass	Previous PTA	Age of bypass (months)	Rutherford stage	Puncture side	Stenosis location	Predilatation	Dilatation	Follow-up (months)	Results
1 ♀ 51	popliteal above knee	yes	7	3	same as bypass	distal anastomosis	no	Inpact Amphirion® 4-12	37	M15: new dilatation M24: thrombosis
2 ♂ 57	popliteal below knee	yes	13	3	controlateral	distal anastomosis	Passeo® 3-4	Inpact Amphirion® 4-8	37	M33: thrombosis
3 ♂ 62	posterior tibial	yes	3	3	controlateral	middle third	Passeo® 3-4	Inpact Amphirion® 3,5-4	28	good
4 ♂ 72	popliteal above knee	yes	10	5	same as bypass	distal anastomosis	Rival® 4-4	Lutonix® 4-6	26	good
5 ♀ 72	popliteal below knee	no	2	1	same as bypass	distal anastomosis	no	Inpact Admiral® 5-6	25	good
6 ♀ 87	peroneal	no	20	5	controlateral	distal anastomosis	Passeo® 2-4	Lutonix® 2,5-8	22	good
7 ♀ 70	popliteal above knee	no	4	3	controlateral	proximal anastomosis	no	Inpact Admiral® 5-8	12	good
8 ♀ 56	popliteal above knee	no	9	6	same as bypass	distal third	Rival® 4-4	Inpact Admiral® 5-15	6	good
9 ♂ 57	popliteal below knee	no	52	2	controlateral	distal third	Passeo® 2-4	Inpact Admiral® 4-8	2	good
10 ♀ 57	popliteal above knee	no	21	3	same as bypass	proximal third	Rival® 4-2	Inpact Admiral® 6-6	1	good
11 ♀ 71	popliteal above knee	no	9	3	same as bypass	distal anastomosis	Passeo® 3-10	Lutonix® 3,5-12	0	D1: death



Conclusion

The use of drug eluting balloon to treat infra-inguinal venous bypass stenosis is minimal invasive and safe. Randomized studies with large cohort of cases are mandatory to compare paclitaxel coated balloon with conventional balloon angioplasty and with open surgical repair for the treatment of infra-inguinal venous bypass stenosis.

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No conflict of interest