Tips And Tricks For Plain Old Balloon Angioplasty (POBA) Of Infrapopliteal Artery Lesions: Details Matter And How To Do It Optimally

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Disclosure

I have the following potential conflicts of interest to report:

Consultant: ABBOTT, Asahi, Cook, MEDTRONIC, Shire, Astra Zeneca

Stock shareholder: Limflow

1. BTK-PTA real world
2. No agreement on BTK vessel size in POBA studies
3. What is the true size of BTK arteries? Are they cylindrical or conical?
4. How to choose the proper balloon size in BTK-POBA?

BTK-PTA real world
- 5690 successfully treated BTK-lesions in 3173 PTA on CLI pts
- 2000-2016

Extremely long Lesions >20 cm
Long lesions 5-20 cm
Short lesions < 5 cm

1/3

Successfully treated lesions in BTK arteries

CTOs
Stenoses

Extremely long Lesions >20 cm
Long lesions 5-20 cm
Short lesions < 5 cm

15%
45%
70%

30%
55%
30%

85%
15%
70%
1. In short proximal lesion we face a "coronary-like" disease: vessel size is clearly seen above and below the lesion.

2. Long & extremely long lesions are the real world of CLI-BTK-PTA and the longer the lesion the higher the prevalence of CTOs and the extension to the distality.

   To decide the proper size of a 30 cm long tibial CTO is a difficult task!

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**POBA in BTK**

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**STUDY**

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**BTK-POBA: restenosis versus diameter**

Abstract:

- There is no agreement on the true vessel size in published studies on BTK-POBA (UB or DCB).
- According to this very rough analysis it seems that DCB restenosis rate is correlated with the proper vessel size balloon dilatation: if DCB is undersized it cannot function!
1. BTK-PTA real world
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3. What is the true size of BTK arteries? Are they cylindrical or conical?
4. How to choose the proper balloon size in BTK-POBA?

**ATA**

- Mean diameter
  - 3.3 ± 0.31
  - 2.9 ± 0.54

**PTA**

- Mean diameter
  - 2.8 ± 0.32
  - 2.3 ± 0.41
  - 2.3 ± 0.52
  - 1.7 ± 0.64

- Echo measure in 124 legs
  - Measures are mean ± 10 mm

**Δ 1,0 ± 0.44**

**Δ 0,6 ± 0.10**

**Δ 0,5 ± 0.37**

**Dominant dorsalis pedis artery**

**Dominant lateral plantar artery**

**Distal distribution pattern in 3150 studied legs**

**The mean prox diameter of tibial arteries is ≥ 3.0 mm**

**Tibial arteries are cylindrical or conical depending on the size of the outflow into foot vessels**
Discrepancy between POBA studies, significant undersizing in comparison with ECHO measure

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2. No agreement on BTK vessel size in POBA studies
3. What is the true size of BTK arteries? Are they cylindrical or conical?
4. How to choose the proper balloon size in BTK-POBA?
How to choose the proper balloon size in long CTOs-BTK-POBA?

- Consider the relationship between leg/foot arteries
- Choose the balloon size looking at the distal outflow!

Long & extremely long lesions are the real world of CLI-BTK-PTA and to decide the proper size of a balloon long true CTO is a difficult task!

There is no agreement on the true vessel size in published studies on BTK-POBA (UB or DCS)

Discrepancy between POBA studies, significant under sizing in comparison with ECHO measure