How to Perform an Optimal DCB Angioplasty
From Anatomy to Function

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Disclosure
Speaker name: Francesco Liistro MD
I have the following potential conflicts of interest to report:
- Consulting: Medtronic, Boston Scientific
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)
- I do not have any potential conflict of interest

Pitfalls of Balloon Angioplasty

- Lower Limb Atherosclerotic Disease is mainly characterized by long and multiple occlusions, particularly in BTK arteries in CLI patients
- The result of POBA in this type of lesions depends on residual dissection, elastic recoil and residual narrowing
- Twenty percent of patients leaving the cath lab after an optimal POBA angiographic result show vessel re-occlusion or residual stenosis within 3-4 weeks from the procedure.
- These type of failure are mainly due to an unrecognized or underestimation of residual mechanical defect after POBA
- DCB may have an impact on restenosis reducing late lumen loss but have no potential to face residual mechanical defect after angioplasty

The IDEAS Randomized Controlled Trial

- 50 patients, 25 (25 lesions) DCB, 25 (30 lesions) DES
- Mean lesion length: 148±56 DCB vs 127±46 DES p=0.1
- CTO: 3/25(12%) DCB vs 7/30(23%) DES
- DCB inflation time 1 min

How to Perform an Optimal DCB Angioplasty

- Antegrade Approach 5F sheath
- Advantage wire 0.014 (Terumo)
- OTW 2.5x150mm balloon
- CTO entry and Exit intralumen
- CTO body navigation subintimal
- Distal TA retrograde puncture as backup strategy
- Predilatation according to Vessel Size by Duplex (1:1 Balloon/vessel ratio)
- DCB same diameter as the largest UCB used
- High pressure (>12 atm) Long Time (>3 min)

Interventional Strategy

Concentration vs. Depth at 90 Days
Crossing CTO: Subintial Tracking and Re-entry

Predilatation: 3.0x150mm UCB
From distal to proximal edge
Duplex: Functional Flow analysis and Vessel Sizing

3.0mm POBA
3.4mm
3.2mm
3.5x300mm POBA
18 atm 180 sec
Six-Month Angiographic Outcome

Defining optimal balloon angioplasty

DCB after Optimal Balloon Angioplasty

30-DAY Duplex Evaluation
CONCLUSION

- DCB angioplasty works for BTK as much as you do a proper vessel preparation and balloon sizing.
- Optimal PTA result is a must
- Duplex ultrasound is a fundamental tool for diagnosis, treatment and follow up in peripheral intervention, particularly in BTK
- DUS can enrich angiography evaluation
- Optimal DUS after DCB seems to predict success on long term
- Due to its safety can be use for patency surveillance and indication for reintervention

So... get skilled !!!!