The "Balloon Wrap" Issue As A Cause Of Dissections With Balloon Angioplasty (PTA): What Is It And Which Balloons Are Least Affected By It
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Conflict of interest
• Nothing to disclose

Balloon ‘candy wrap’
• Torsion of balloon along longitudinal axis
• When balloon is being inflated in a steno-occlusion untwisting occurs from the extremities, concentrating the ‘twist’ in one spot

Case examples

Balloon ‘candy wrap’
In-vitro simulation

Normal balloon inflation

Uncontrolled expansion -> Longitudinal dilatation

Uncontrolled expansion -> Radial expansion

Uncontrolled expansion -> Torsional (sheer) stress

Vessel trauma can manifest as severe dissection and elastic recoil

Balloon ‘candy wrap’

- Creates additional torsional forces on vessel wall and maybe one of the contributing factors to dissection during treatment of (long) SFA lesions
- May influence drug delivery when using drug coated balloons

Balloon ‘candy wrap’ and DCB

- More pronounced in long balloons
- Many balloon types (from various manufacturers) affected
- Causes
  - Placement protective sheath
  - Folding and pleating
  - Diameter of hoop
  - Manipulation (torsion during insertion)

Conclusions

- ‘Candy wrap’ phenomenon can cause severe vessel wall injury
- Knowing of its existence will make you recognize it and see it more frequently
- When noticed stop inflating and exchange balloon in order to avoid dissections
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