The double parallel balloon angioplasty technique: A new approach for better result for treatment of symptomatic central vein stenosis in patients with hemodialysis fistulas

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Disclosure

Speaker name:

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I have the following potential conflicts of interest to report:

☐ Consulting
☐ Employment in industry
☐ Stockholder of a healthcare company
☐ Owner of a healthcare company
☐ Other(s)

☒ I do not have any potential conflict of interest
Introduction

- Stenosis central vein in patients with hemodialysis fistulas
- Swelling of the upper limb
- Thoracic collateral venous circulation
- Loss of the vascular access
Our Old classic strategy

- Angioplasty by high pressure balloon
- Stenting (we are not fans!!!)
- Balloon diameter (range from 12 to 16)
- Introducer 8 et 9 French !!!
Our Old classic strategy

- Ultra non-compliant

- Delivers maximum force to areas of most resistance (up to 18 ATM)

- Sometimes : big problems !!!
Sometimes: big problems

- Rigidity of the catheter
- Tortuosity angle between innominate vein and superior cava
Double technique balloon

- For brachiocephalic and brachiobasilic fistula
- Diameter of fistula at least 8 mm
Double technique balloon

- double introducer 5 to 7 French
- distance between introducer 5 to 10 mm
Double technique balloon
Double technique balloon
Double technique balloon: my last case

- 53 year old man
- Diabetic
- Brachiocephalic arteriovenous venous (3 years)
- Edema of the upper left limb
- DUS: flow 500 ml/min
- Angioscan: heavy stenosis of innominate vein
Double technique balloon: my last case
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Double technique balloon: my last case
Double technique balloon: Another case
Double technique balloon: Another case

- Adels balloon
  8*100 mm
- Mustang (Boston)
  8*40 mm
Double technique balloon: Another case

- Innominate vein: 22 mm
- Result after ATL: 14 mm
Double technique balloon: stenosis of innominate vein (another patient, 49 Yom, BC fistula, upper limb edema)

- Adels balloon 7*80 mm
- Mustang (Boston) 9*40 mm
Double technique balloon: stenosis of innominate vein (another patient, 75 Yow, right BC fistula, upper limb edema)
Double technique balloon: stenosis of subclavian vein (another patient, 49 Yom, BC fistula, upper limb edema)

- Adels balloon 7*100 mm
- Mustang (Boston) 7*40 mm
Double technique balloon: advantages

- Lesions give way more easily
  - Sharp effect of the second guidewire (like a scoring balloon)
  - Addition of pressures of both balloons (up to 40 ATM)

- Avoid sliding of the balloon over the high stenosed lesions (The first balloon blocks the Second)
Double technique balloon: advantages

- Useful for all situations (easy to have 6 to 8 mm balloon in Cath lab)
- Possibility to calibrate lesion by the first balloon (progressive angioplasty)
- Minimize the risk of rupture
- Less puncture complications (in majority of cases, use of 5F or 6F introducer) (12 patients without any complications)
Merci
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