

# Comment améliorer la performance du cathéter guide?

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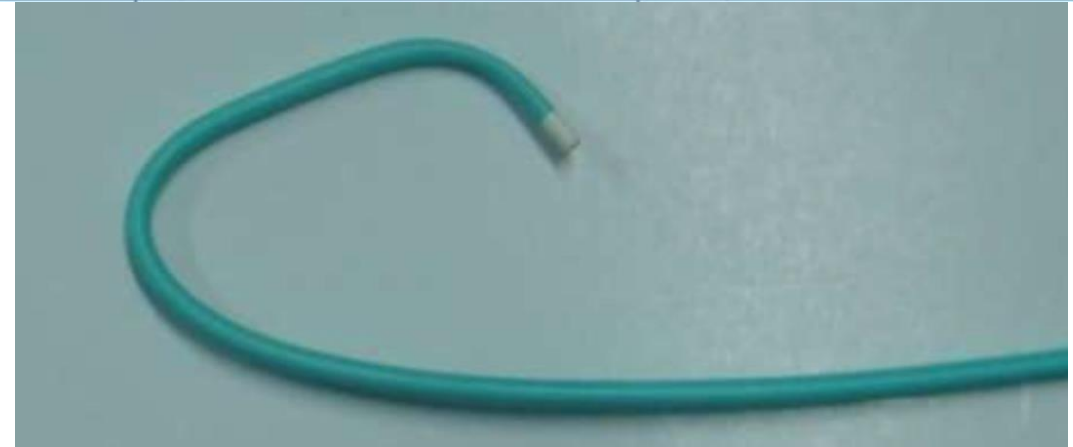


# Cathéter guide

- Élément essentiel pour garantir le succès d'une angioplastie et raccourcir le délai de procédure (irradiation et contraste):
- Il s'agit du prolongement de nos mains et il faut connaître parfaitement son comportement ainsi que le support particulier qu'il procure (passif ou actif).
- La plupart des angioplasticiens sont très attachés à leur cathéter habituel qu'il soit diagnostique mais surtout interventionnel.

- Le cathéter guide a plusieurs fonctions:
  - Injection de contraste
  - Prendre la pression artérielle
  - Passage du guide et de matériel en intra-coronaire
  - Apporter un appui pour positionner un stent
- La sélection du cathéter guide selon la situation permettra d'améliorer sa performance et sera le garant du succès de la procédure

# Cathéter Guide



- 3 couches au lieu de 2
- Corps plus rigide
- Une courbure plus soft
- Une lumière interne plus large
- Des angles plus courts et plus prononcés
- Une extrémité atraumatique

## Total number of Failures

98/2100 (4.6%)

### Failure of arterial access

Inadequate arterial puncture

13%

### Failure to advance catheter to ascending aorta

Radial artery spasm

34%

Radial artery dissection

10%

Radial artery loop/

6%

Radial artery stenosis

1%

### Failure to complete PCI due to lack of guide support

Subclavian tortuosity

18%

Inadequate guide backup support

17%

n=2,100

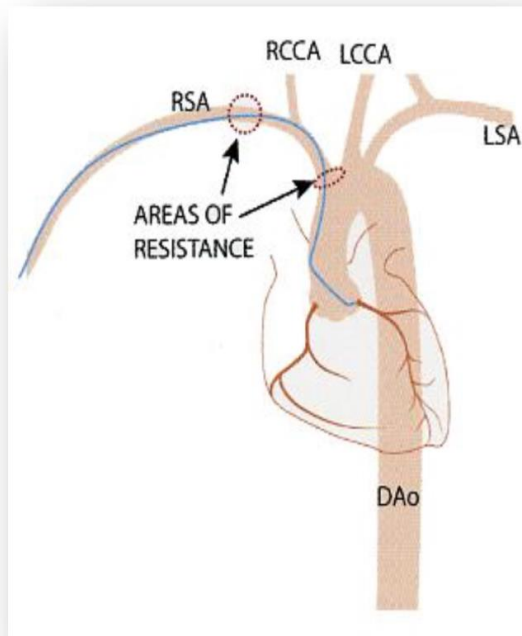
# Améliorer la performance du cathéter guide? Une bonne sélection du KT guide



# Améliorer le support du KT guide

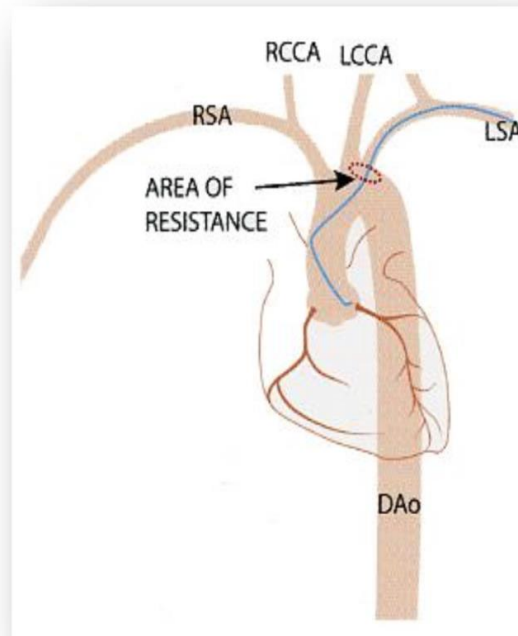
D'autant plus important que l'on utilise de plus en plus la voie radiale dans les procédures complexes.

**Right Radial**



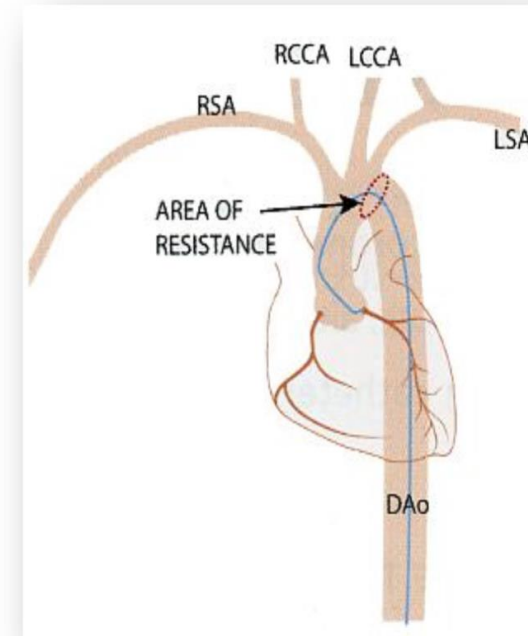
2 points of resistance

**Left Radial**



1 point of resistance

**Femoral**



1 point of resistance

# Le choix va se baser sur certains facteurs

|                     | Facteurs à prendre en considération   |
|---------------------|---|
| Alignement Co-axial | Anatomie coronaire– site de l'ostium location; orientation du vaisseau • Voie d'abord– Fémorale/Radiale, Dte/G <ul style="list-style-type: none"><li>• configuration de l'aorte, sa courbure, la taille</li><li>•</li></ul> |
| Support             | Lésion – Simple / Complexe (Long/calcififié/Tortuosité/Bifurcation/CTO) • Device – type, taille, nombres  |





# Orientation et naissance de l'ostium du TC



**Horizontal**

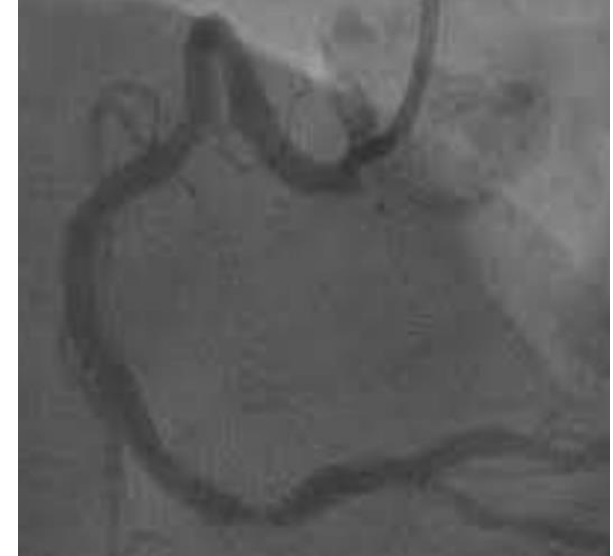


**Inferior**

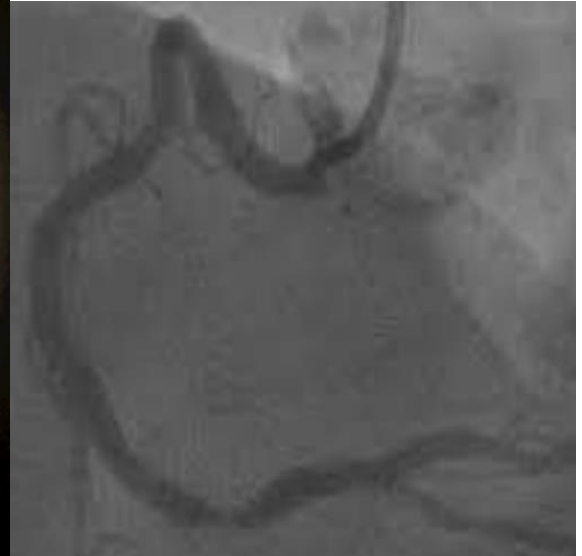
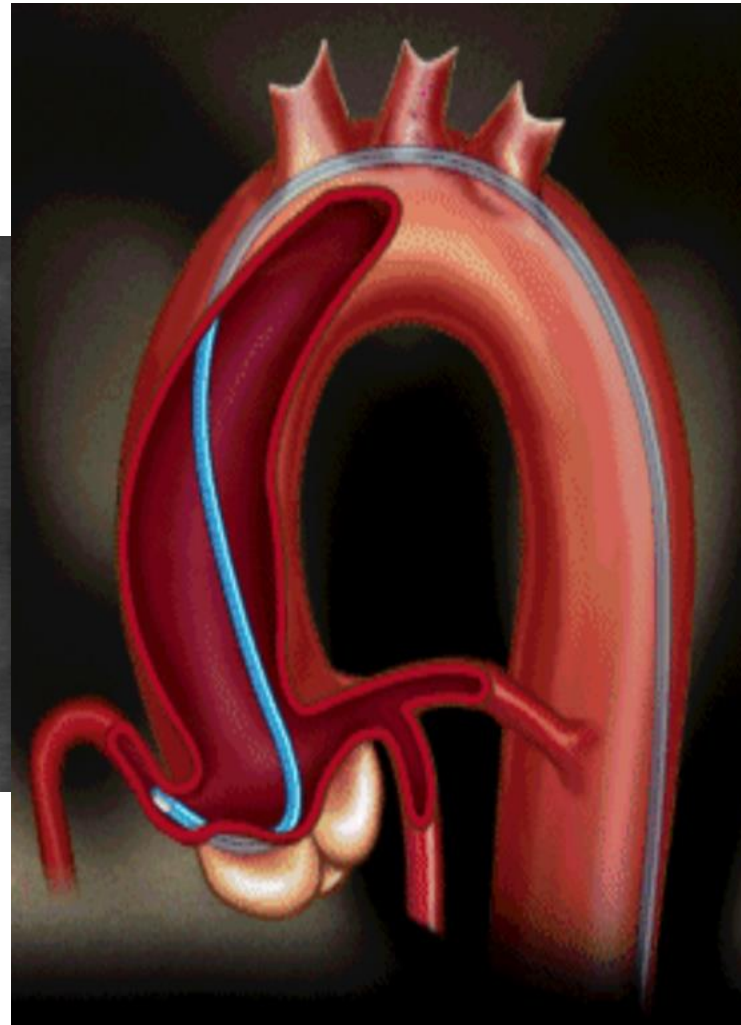


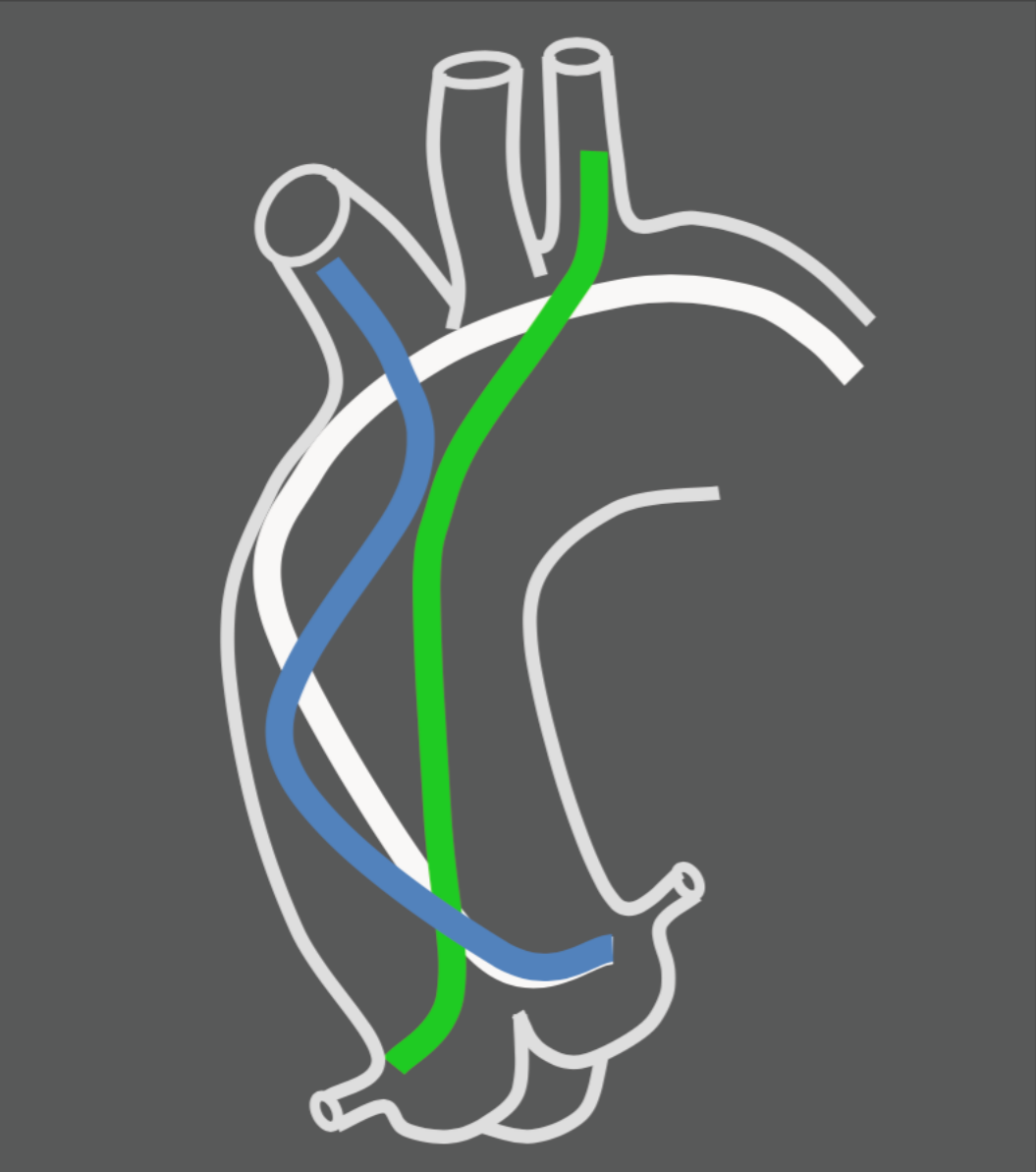
**Superior**

# Orientation de la coronaire droite

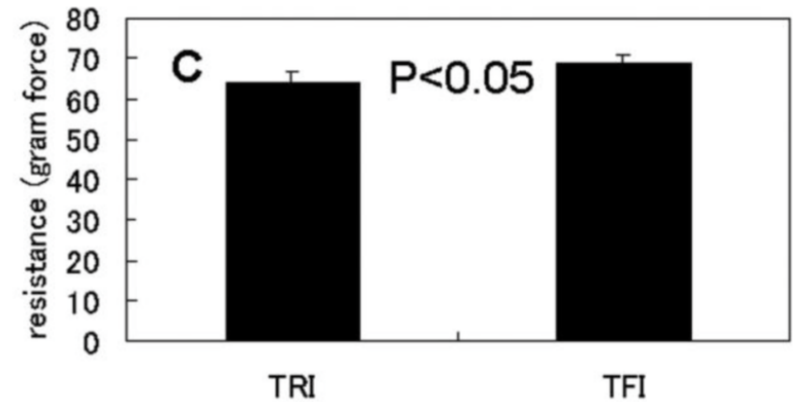
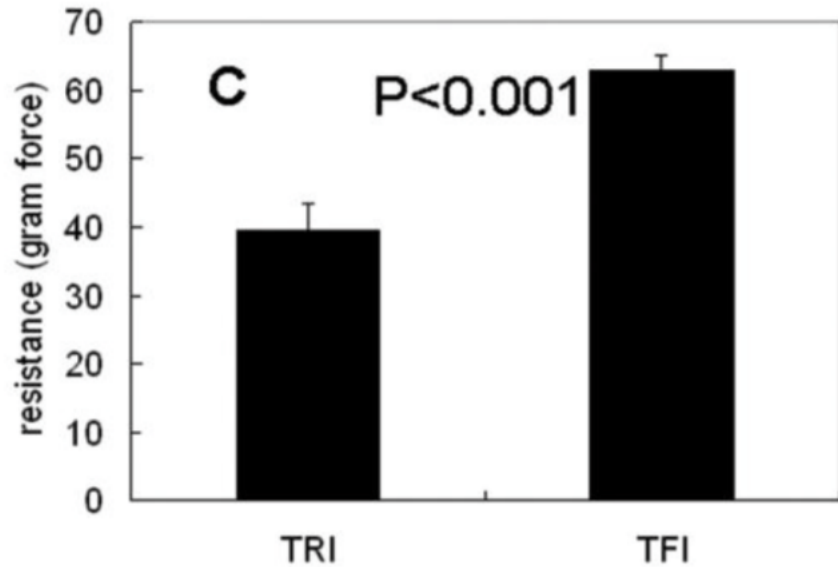
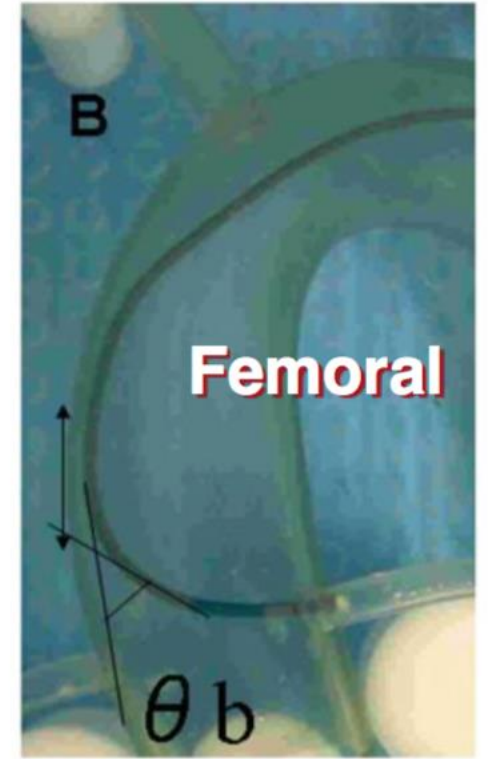
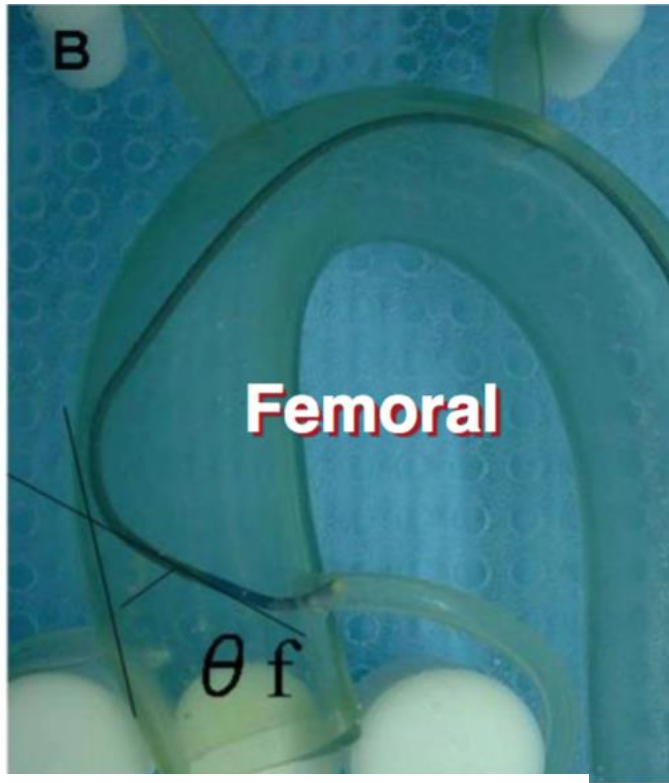
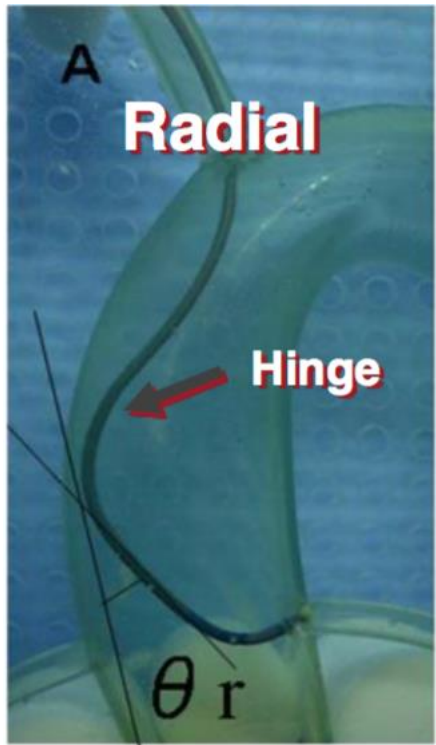






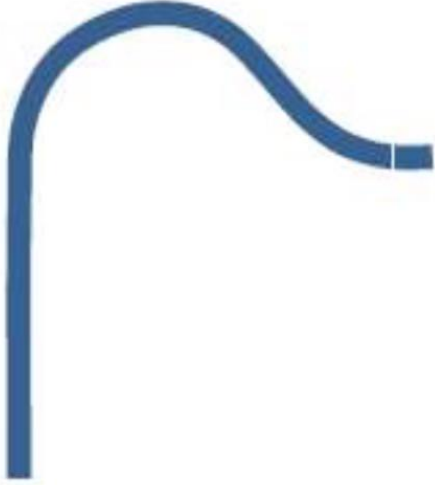
# Orientation de la coronaire droite



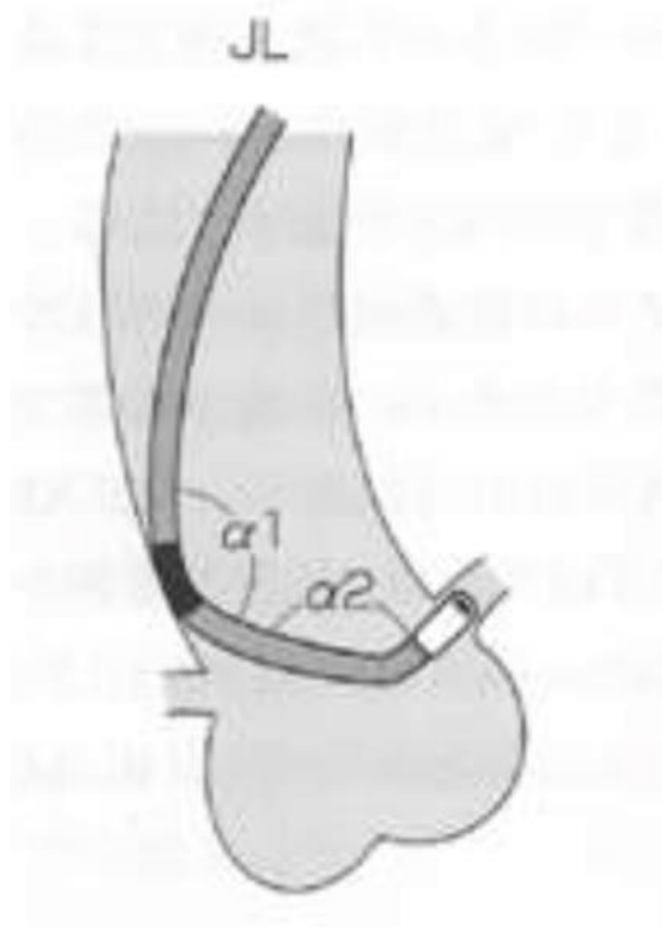




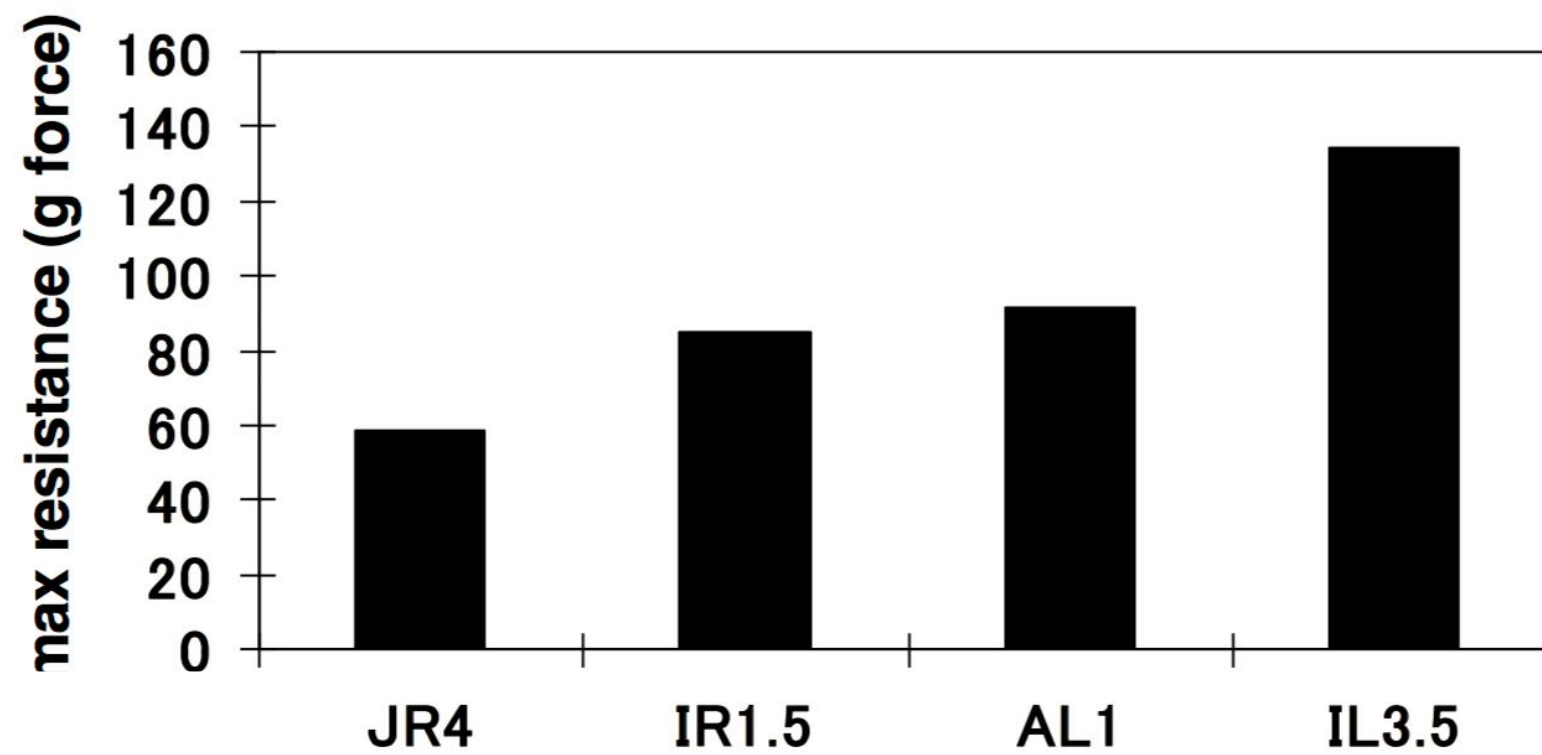
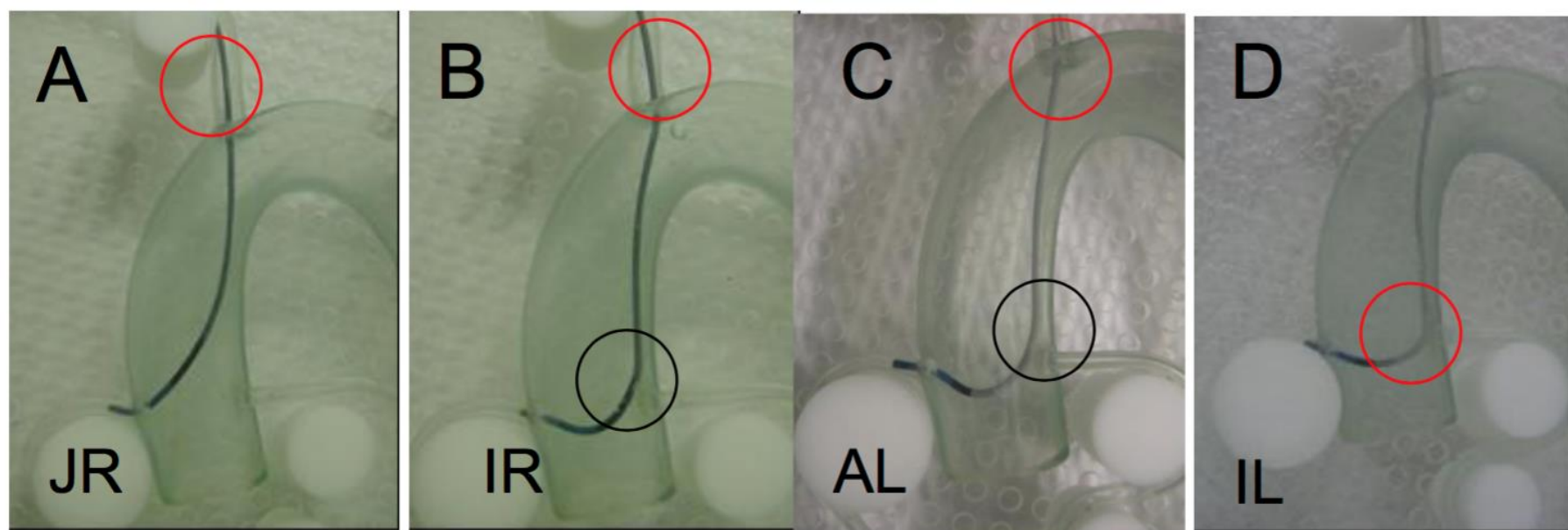


| Judkins Left   | Ikari Left   | Kimny   | Extra-backup (XB or EBU)   | Amplatz Left  |
|--|--|---|--|---|
|                     |                                 |  |         |  |
| <p>Suboptimal support for PCI. Consider for proximal lesions. Downsize secondary curve by 0.5 cm</p> | <p>Guide for "Single Catheter" technique. Good backup. Active support in power position. Consider for STEMI.</p> | <p>Good passive support. "Single catheter technique"</p>                            | <p>Workhorse catheter; Good backup from contralateral aortic wall or sinus of Valsalva</p> | <p>Passive support, Deep engagement; Complex PCI</p>                                |

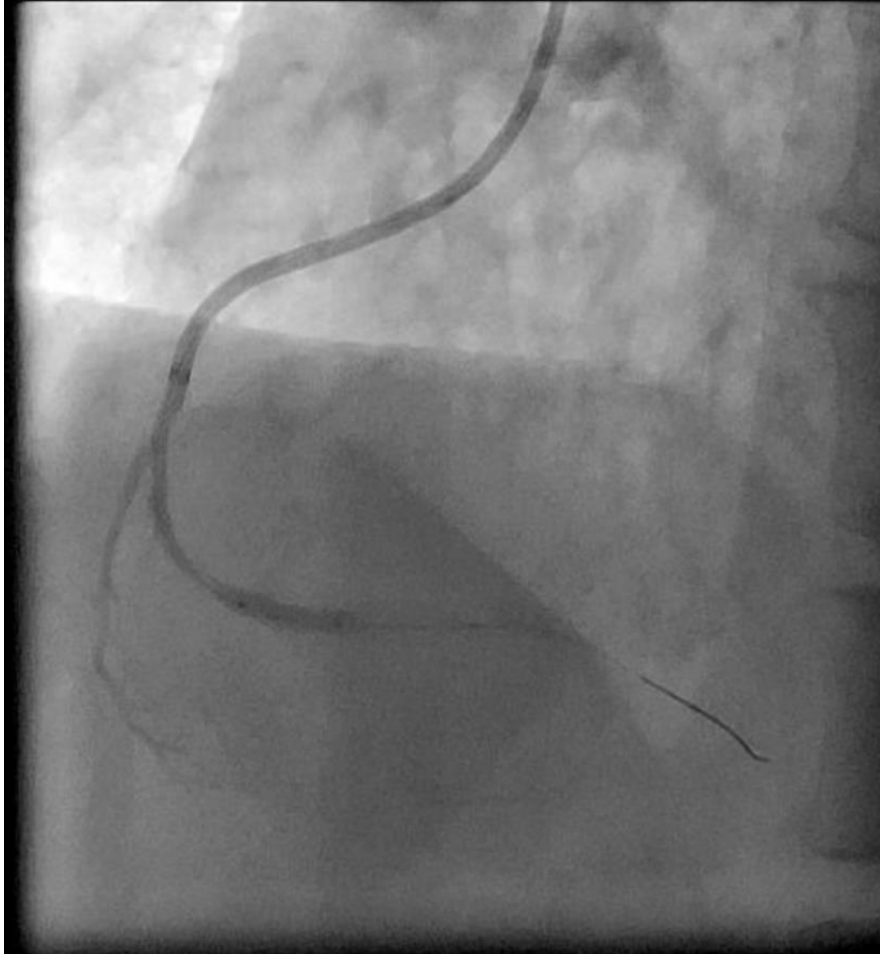
# Extra back-up Guide

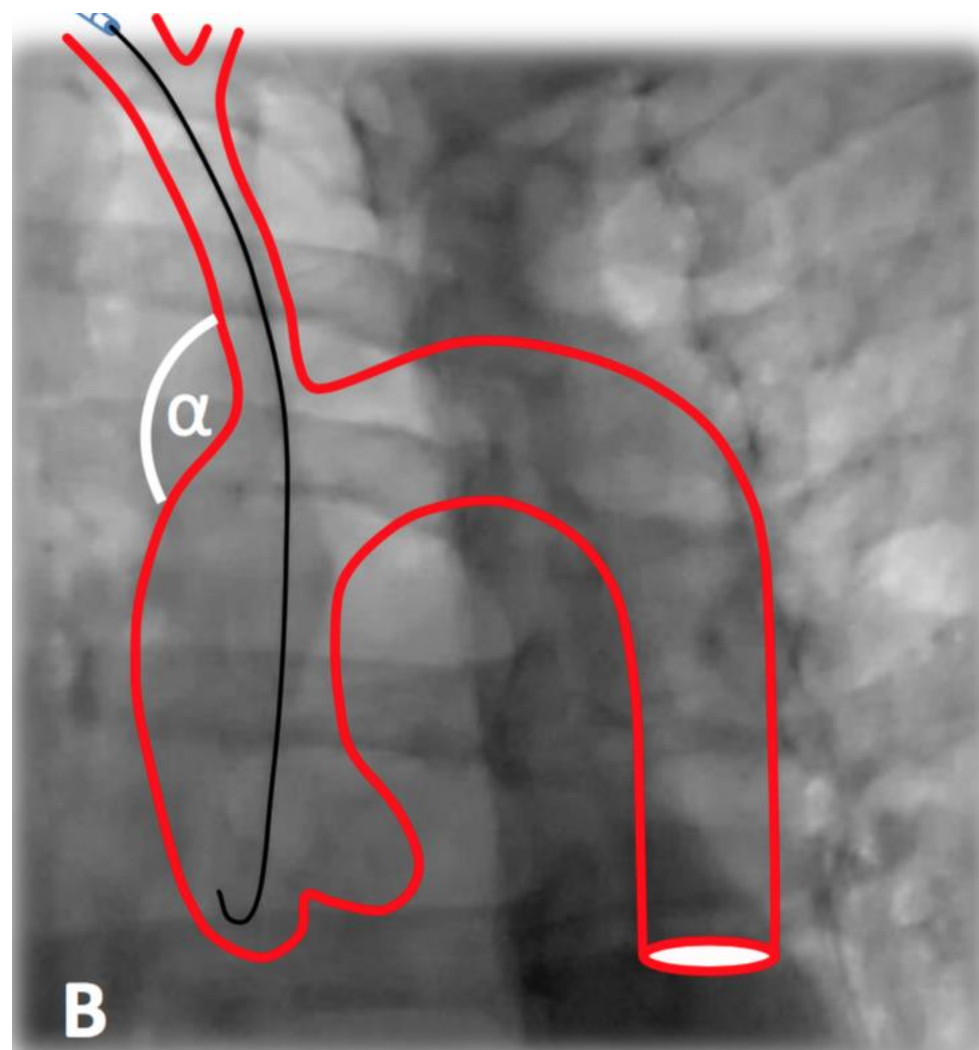
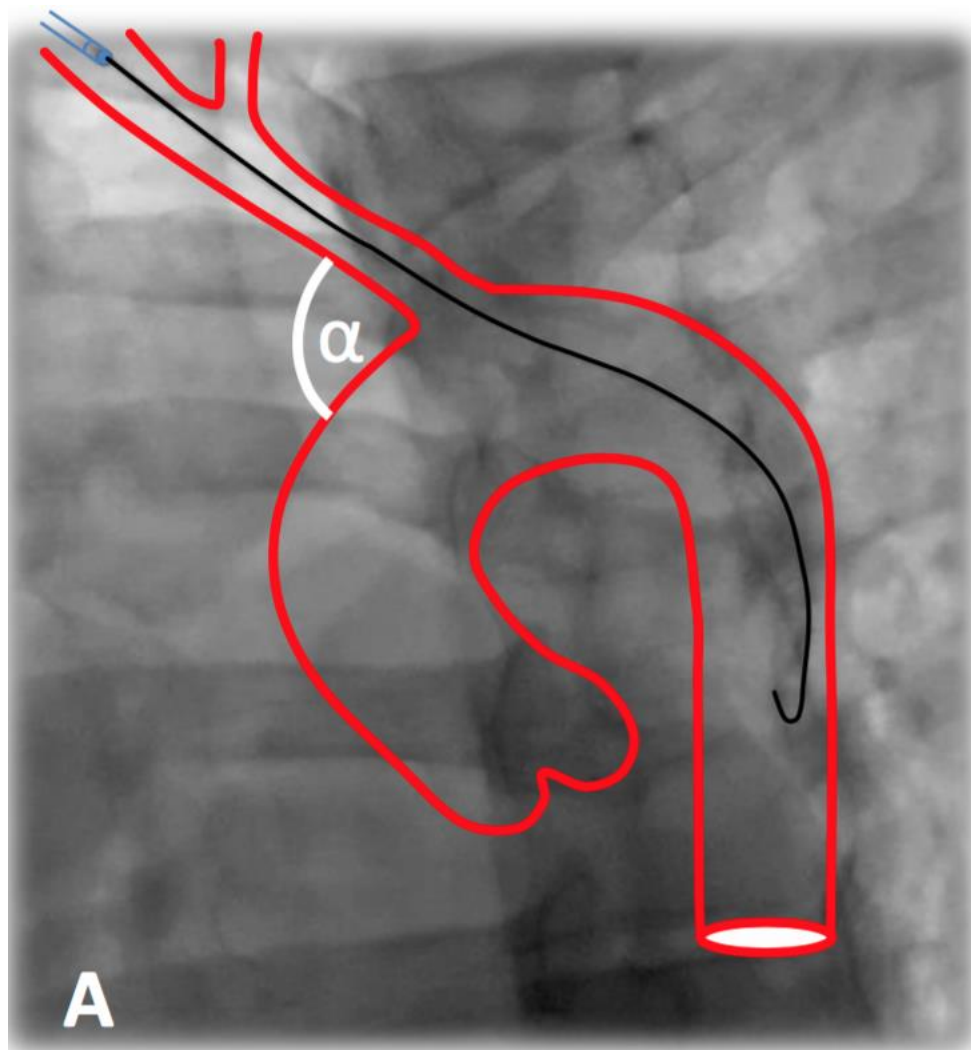






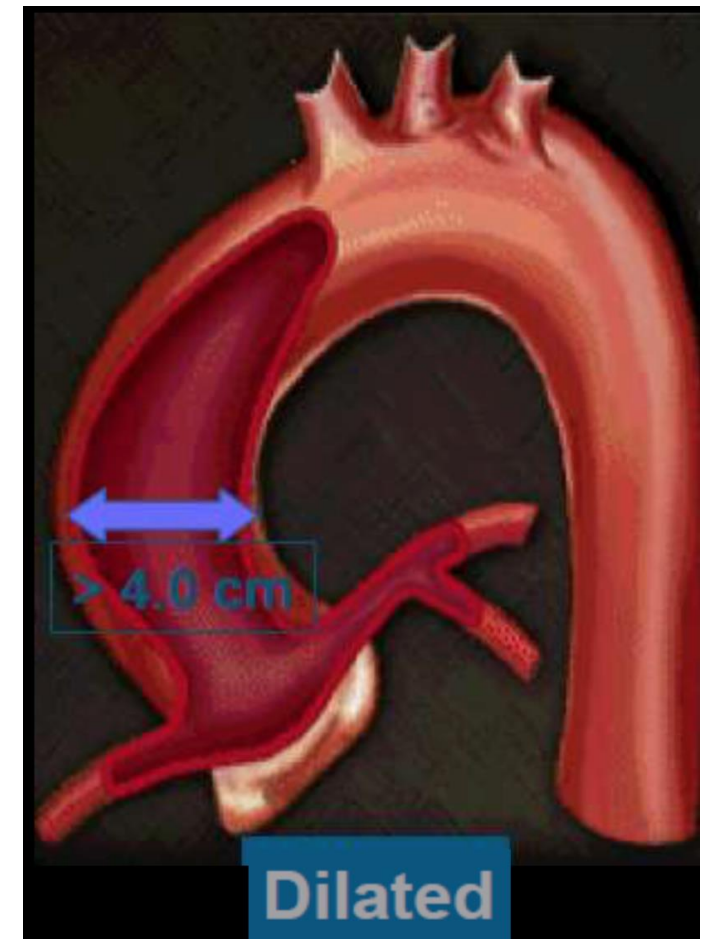
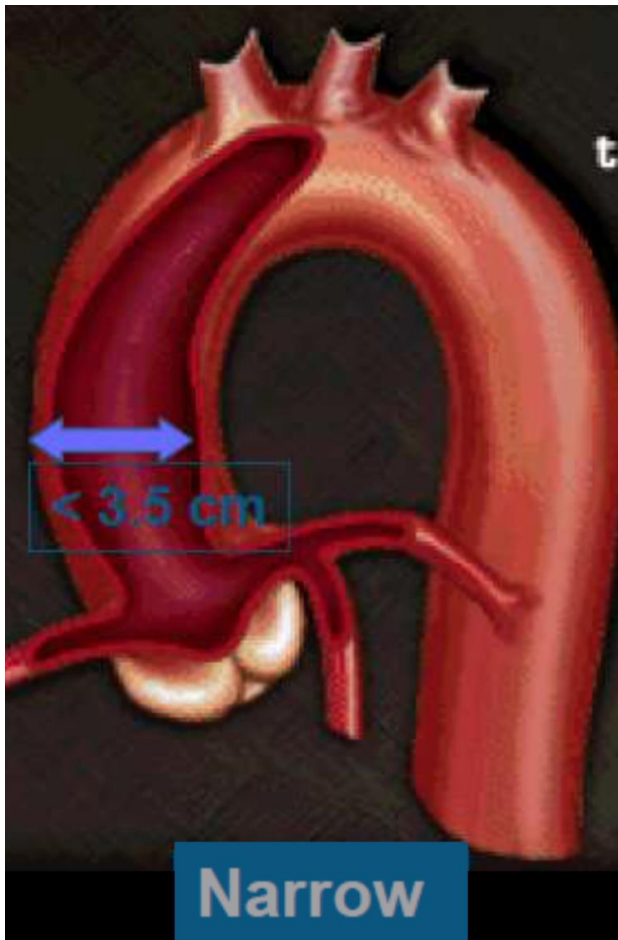
# Appui actif



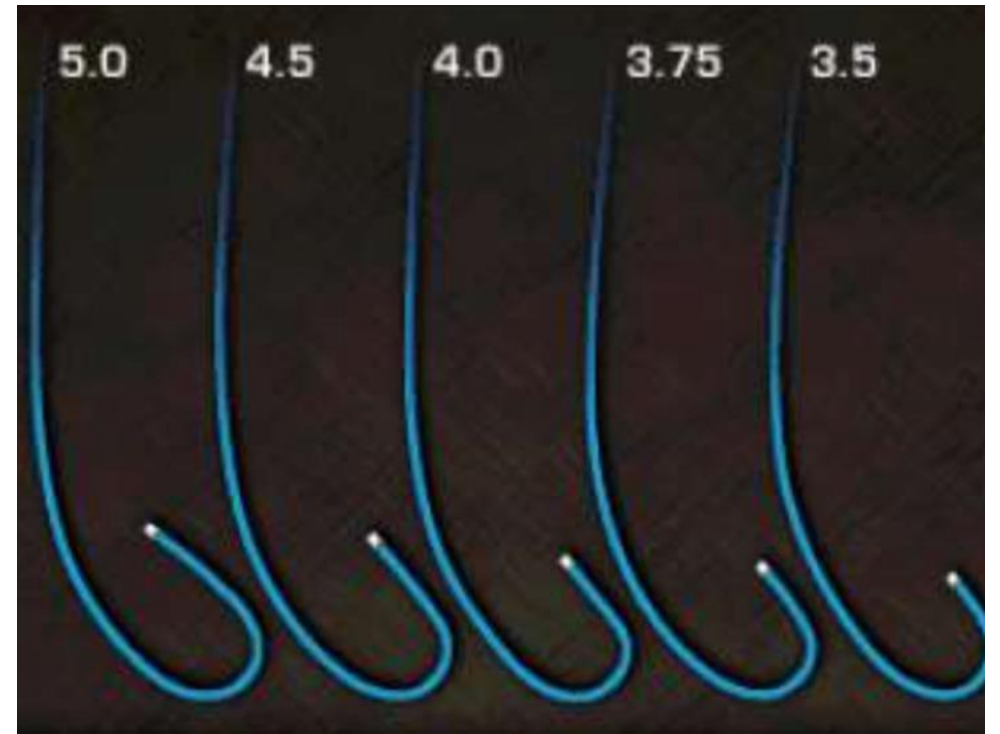
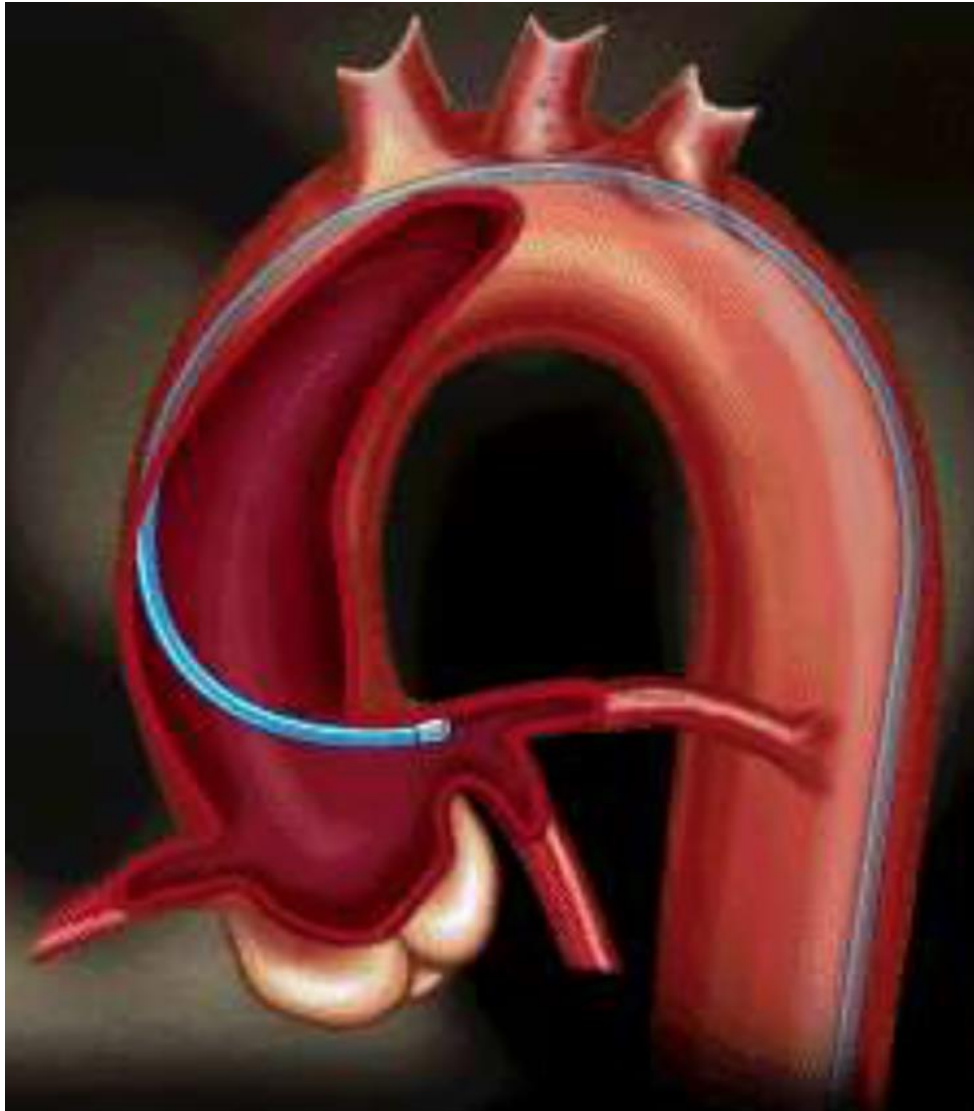




# Choix du cathéter guide dépend de la largeur de l'aorte



# Extra-back-up Guide



| Guide size                  | PCI device (s)  |  |
|-----------------------------|---|--|
| 5 Fr<br>(1.42-1.50 mm I.D.) | POBA<br>Drug coated balloon<br>Scoreflex balloon<br>Most coronary stents  | Rotablator burr size 1.25 mm<br>Some IVUS catheters<br>Kissing with small profile balloons and<br>.010" wire |
| 6 Fr<br>(1.73-1.80 mm I.D.) | Standard angioplasty and stenting<br>Some bifurcation PCI, Kissing with<br>small profile balloons<br>Flextome Cutting balloon | 6 Fr Thrombuster/Export catheter<br>Rotablator burr size 1.5 mm<br>IVUS catheters                            |
| 7 Fr<br>(1.98-2.06 mm I.D.) | Simultaneous 2 rapid exchange<br>balloons<br>Simultaneous 2 stent deployment<br>Simultaneous 2 microcatheters                 | 7 Fr Thrombuster<br>Rotablator burr size 1.75 and 2 mm   |
| 8 Fr<br>(2.24-2.30 mm I.D.) | Simultaneous 2 OTW balloons<br>Rotablator burr size 2.25 mm   |  |



## **Larger** Guiding

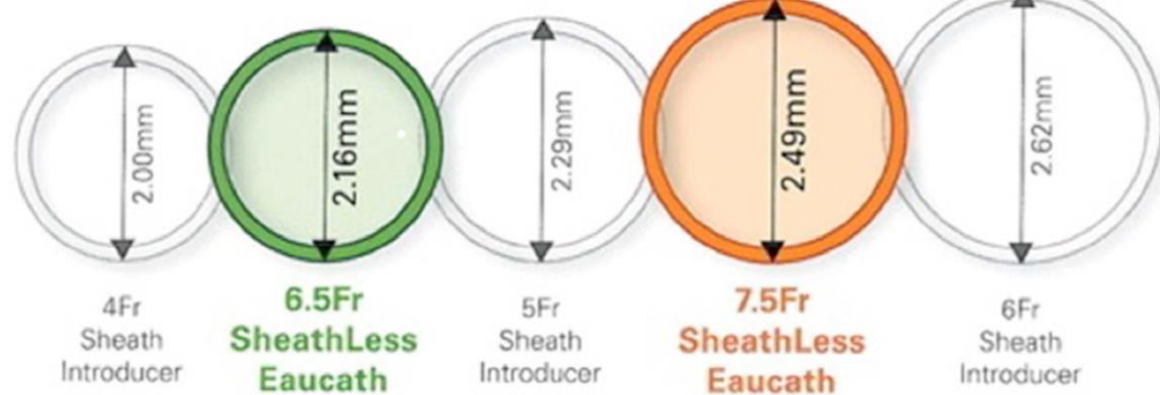
Higher bleeding risk  
but  
Greater coronary opacification  
Better torque transmission  
More passive support  
More complex PCI possible

## **Smaller** Guiding

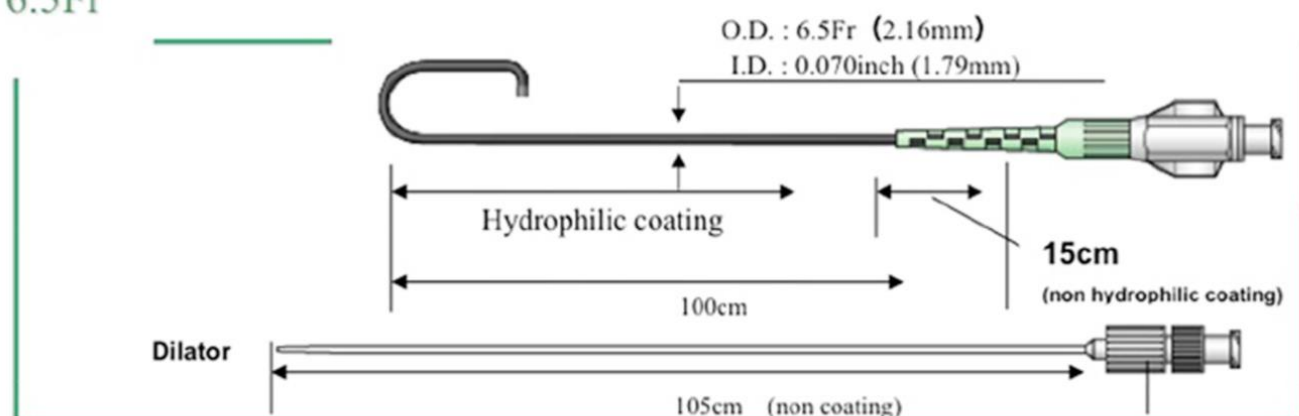
Lower bleeding risk  
but  
Less coronary opacification  
Poorer torque transmission  
Less passive support  
Less complex PCI possible

Obtenir une lumière plus large

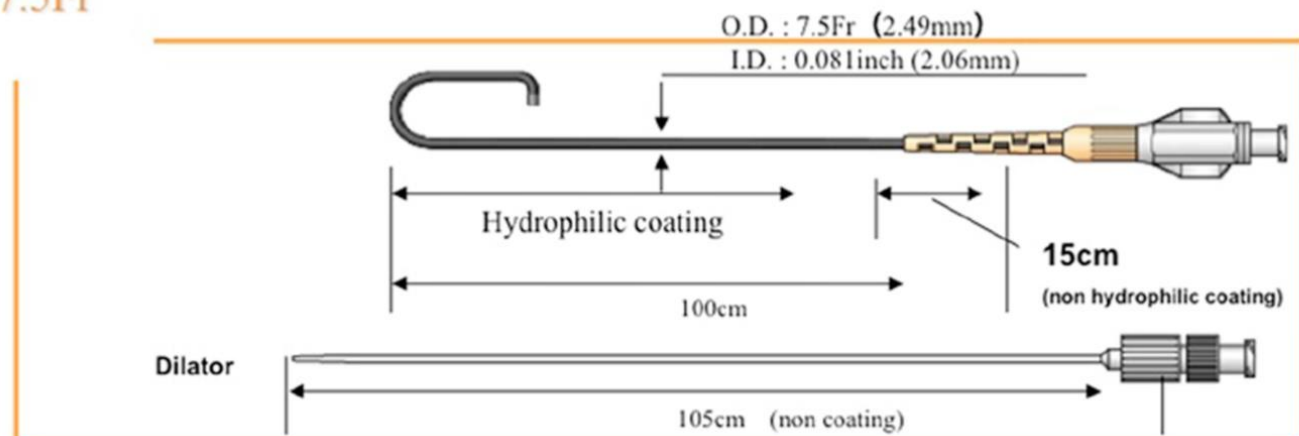


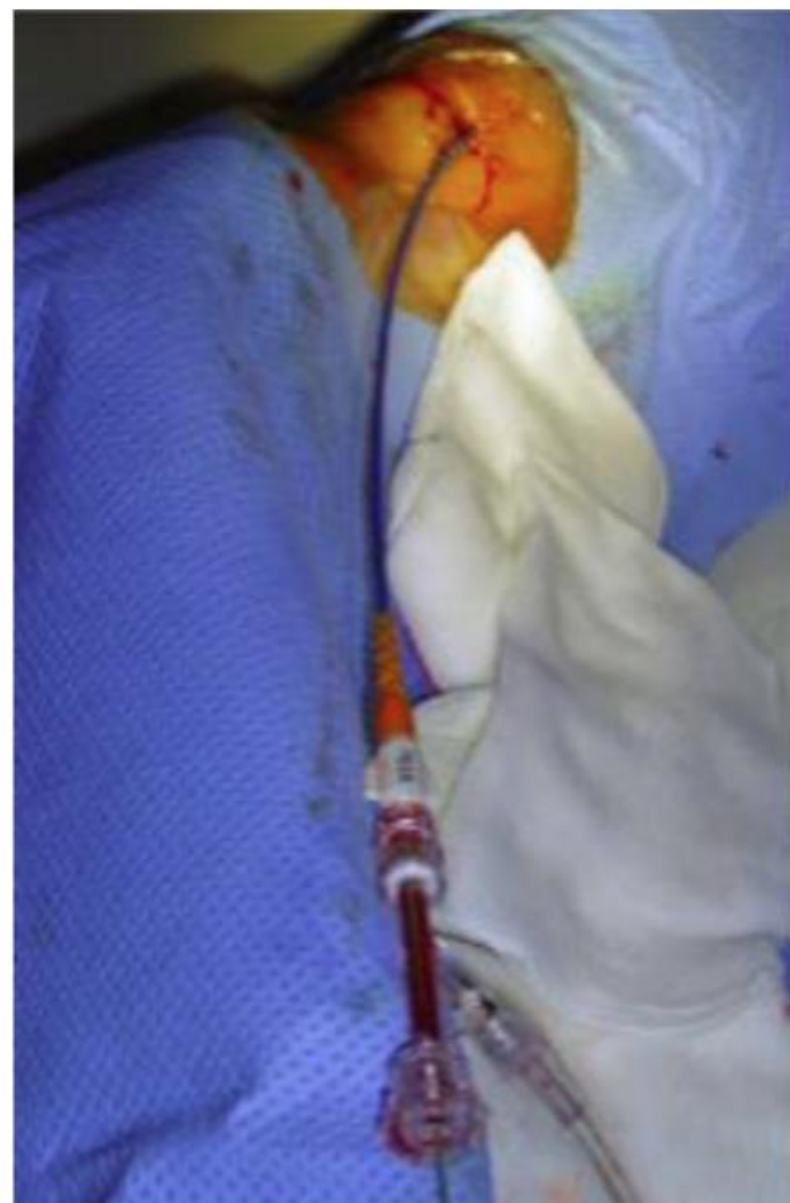
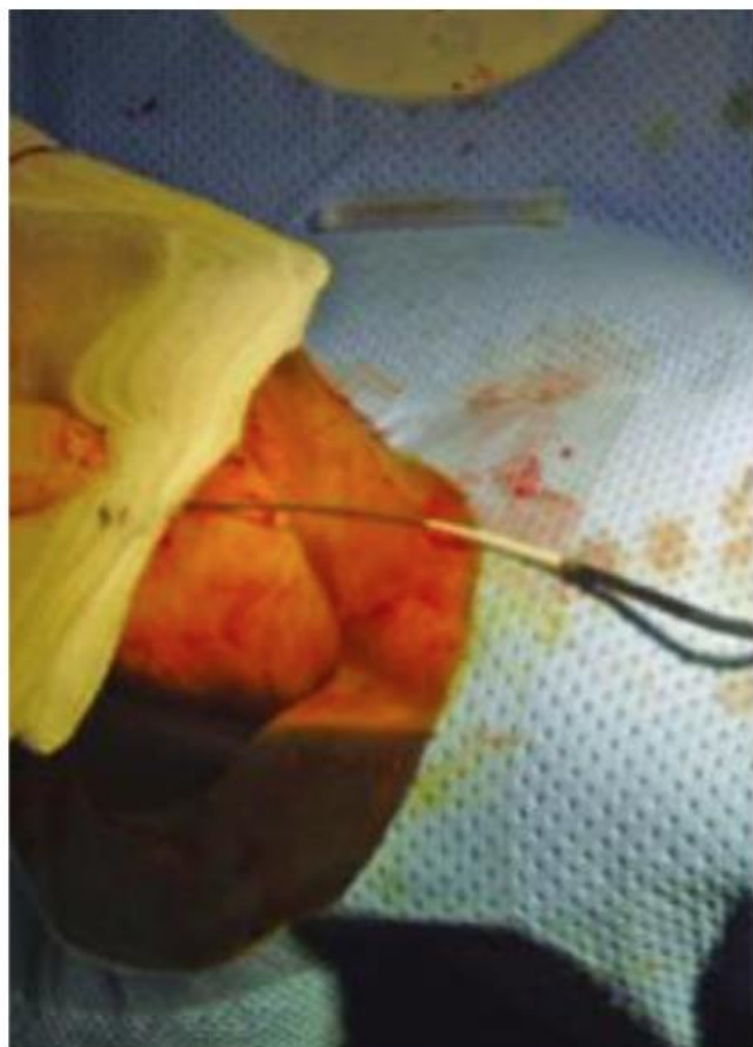


### 6.5Fr

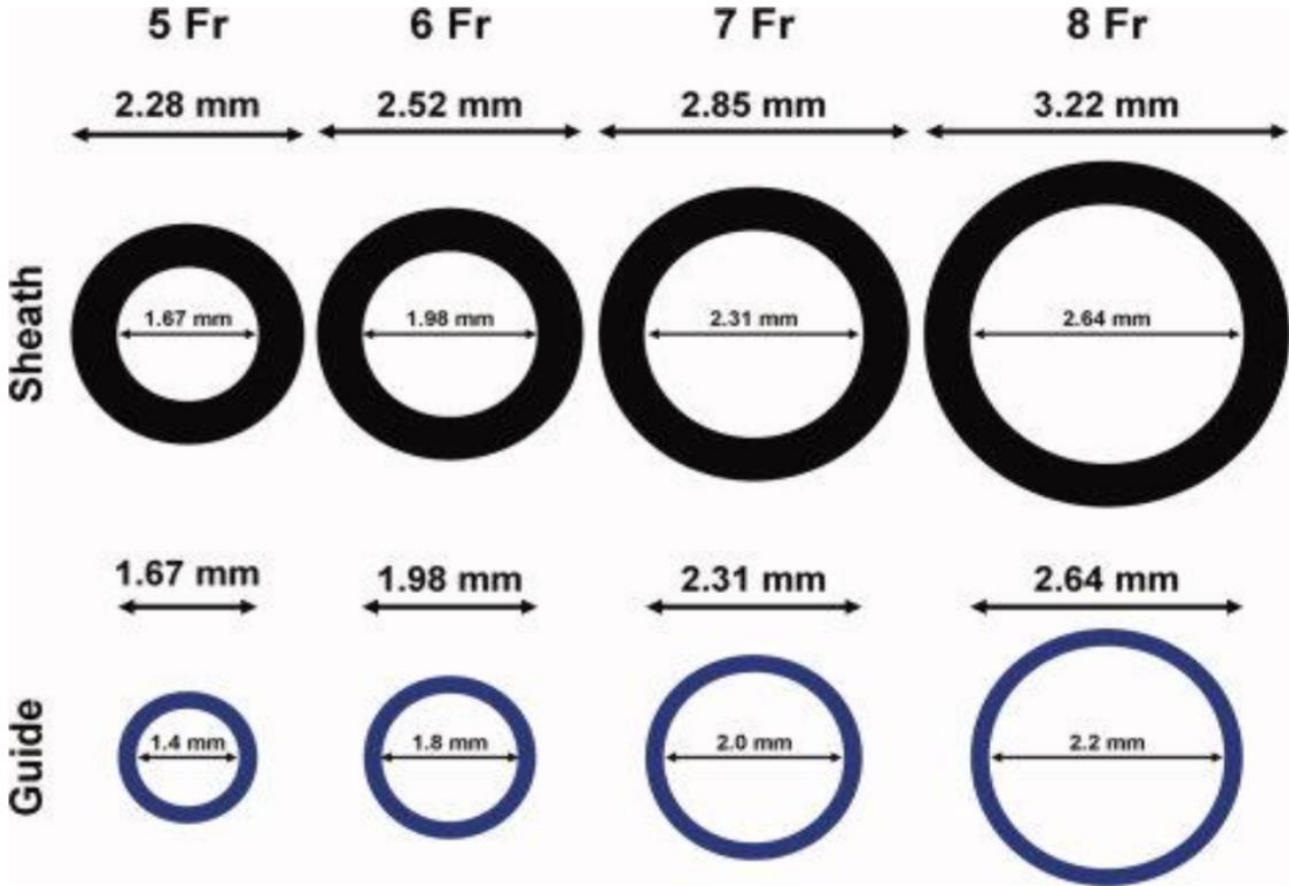


### 7.5Fr





A 5-Fr diagnostic catheter inserted into and through a 7-Fr guiding catheter and over a 0.035 inch standard J-tip



From AM, Gulati R, et al. CCI 2010; 76:911-916





# A randomized study of sheathless versus standard guiding catheters for transradial percutaneous coronary interventions

Stephane Noble, MD, Elena Tessitore, MD, Baris Gencer, MD, Marc Righini, MD, Helia Robert-Ebadi, MD, Marco Roffi, Robert F. Bonvini, MD

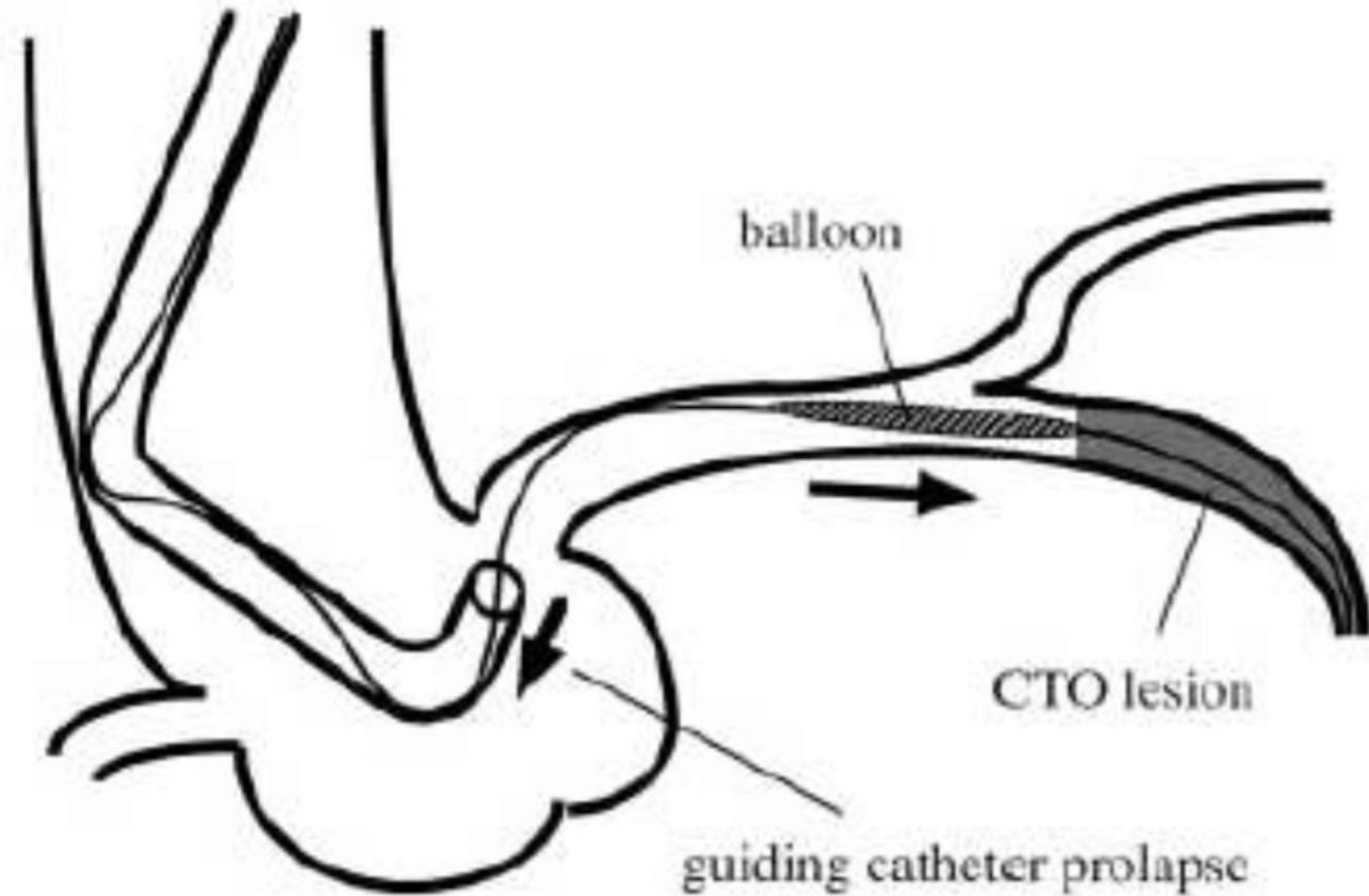
**Table 1:** Efficacy outcomes of 233 percutaneous coronary transradial procedures randomized between sheathless guiding catheter vs standard guiding catheter

|                                     | Sheathless GC<br>N=114 | Standard GC<br>N=119 | P value* |
|-------------------------------------|------------------------|----------------------|----------|
| <b>Primary Efficacy outcomes</b>    |                        |                      |          |
| Successful transradial PCI **       | 111 (97.4)             | 115 (96.6)           | 0.74     |
| without cross over                  | 110 (96.5)             | 107 (89.9)           | 0.047    |
| <b>Primary Safety outcomes</b>      |                        |                      |          |
| PCI complication***                 | 69 (60.5)              | 72 (60.5)            |          |
| Radial artery occlusion             | 4 (3.2)                | 3 (2.9)              | 0.90     |
| Radial artery perforation           | 3 (3.2)                | 3 (2.9)              | 0.90     |
| Radial artery pseudo-aneurysm       | 0                      | 0                    | NA       |
| EASY Hematoma Classification (≥2)   | 2 (2.1)                | 2 (1.9)              | 0.92     |
| Grade 2                             | 36 (31.6)              | 39 (32.8)            | 0.40     |
| Grade 3                             | 28 (24.6)              | 35 (29.4)            |          |
| Grade 4                             | 8 (7.0)                | 4 (3.4)              |          |
|                                     | 0                      | 0                    |          |
| <b>Secondary Efficacy outcomes</b>  |                        |                      |          |
| PCI time in min, mean (SD)          | 45.1 (27.3)            | 45.9 (25.7)          | 0.41     |
| Fluoroscopy time in min, mean (SD)  | 20.1 (12.9)            | 19.9 (9.5)           | 0.56     |
| Cannulation time in min, mean (SD)  | 3.6 (5.4)              | 3.7 (5.5)            | 0.44     |
| Contrast medium in ml, mean (SD)    | 196 (82)               | 187 (77)             | 0.38     |
| Conversion to transfemoral approach | 2 (1.8)                | 1 (0.8)              | 0.54     |

# Quelle stratégie pour un appui actif?

Dans les lésions les plus complexes: CTO, tortuosités coronaires, les lésions calcifiées ou dans les lésions de bifurcation.

A

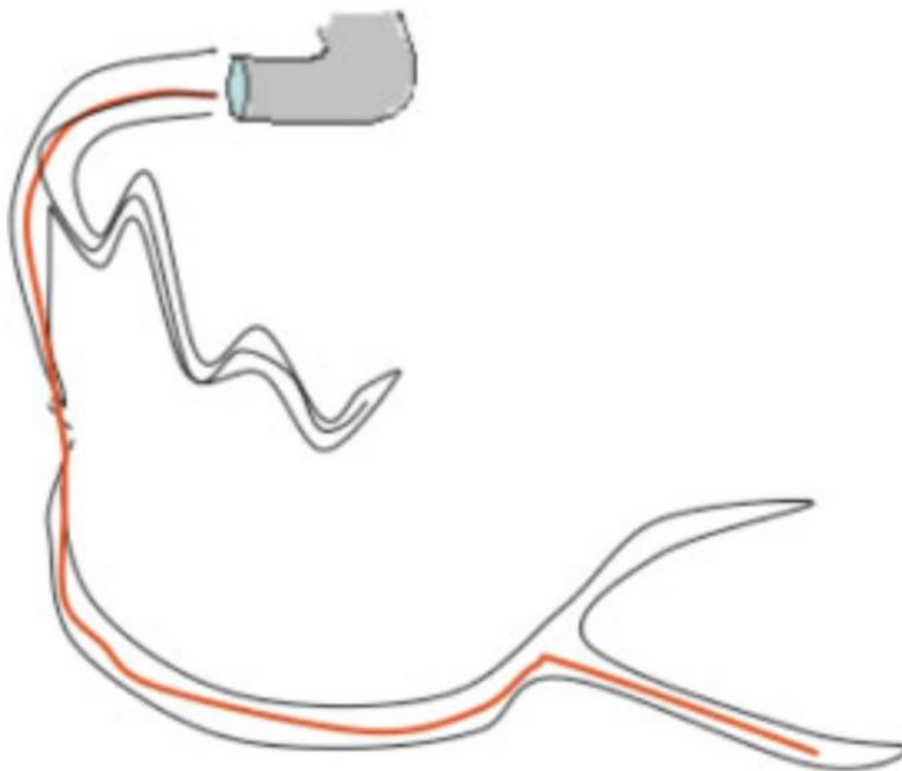


**without anchor technique**

# Techniques to Enhance Guide Catheter Support

**Carlo Di Mario,<sup>1\*</sup> MD, PhD, FSCAI and Nandakumar Ramasami<sup>2</sup> MRCP, MD**

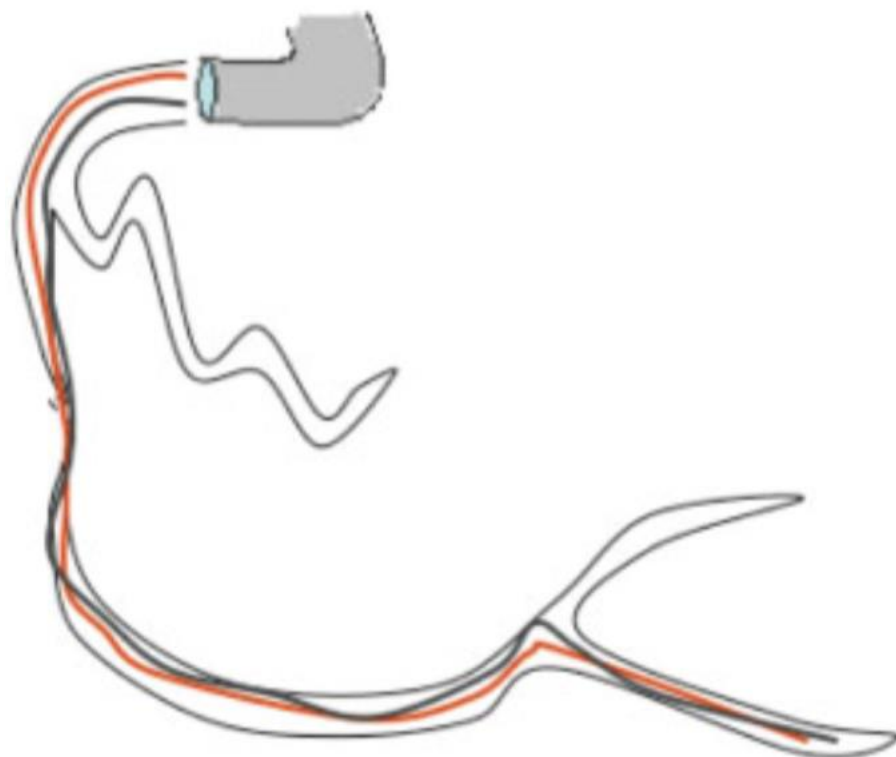
**Key words: guide catheter support; anchor; hybrid support**



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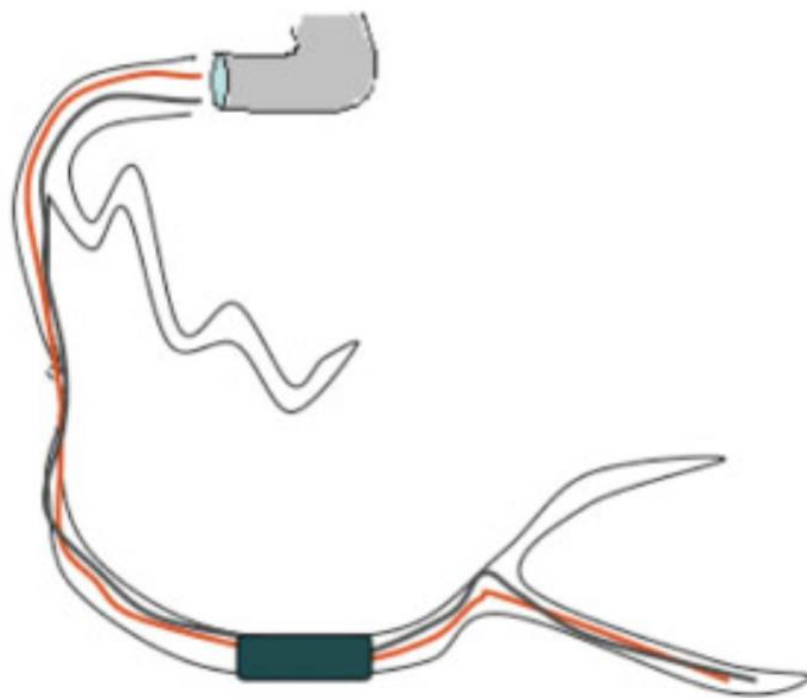




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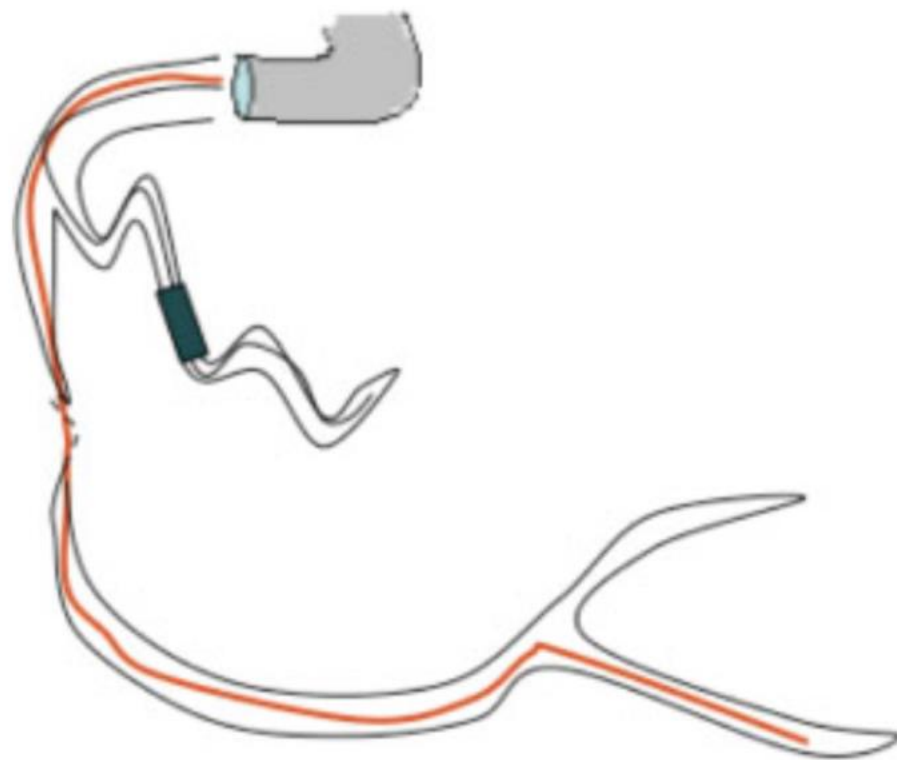
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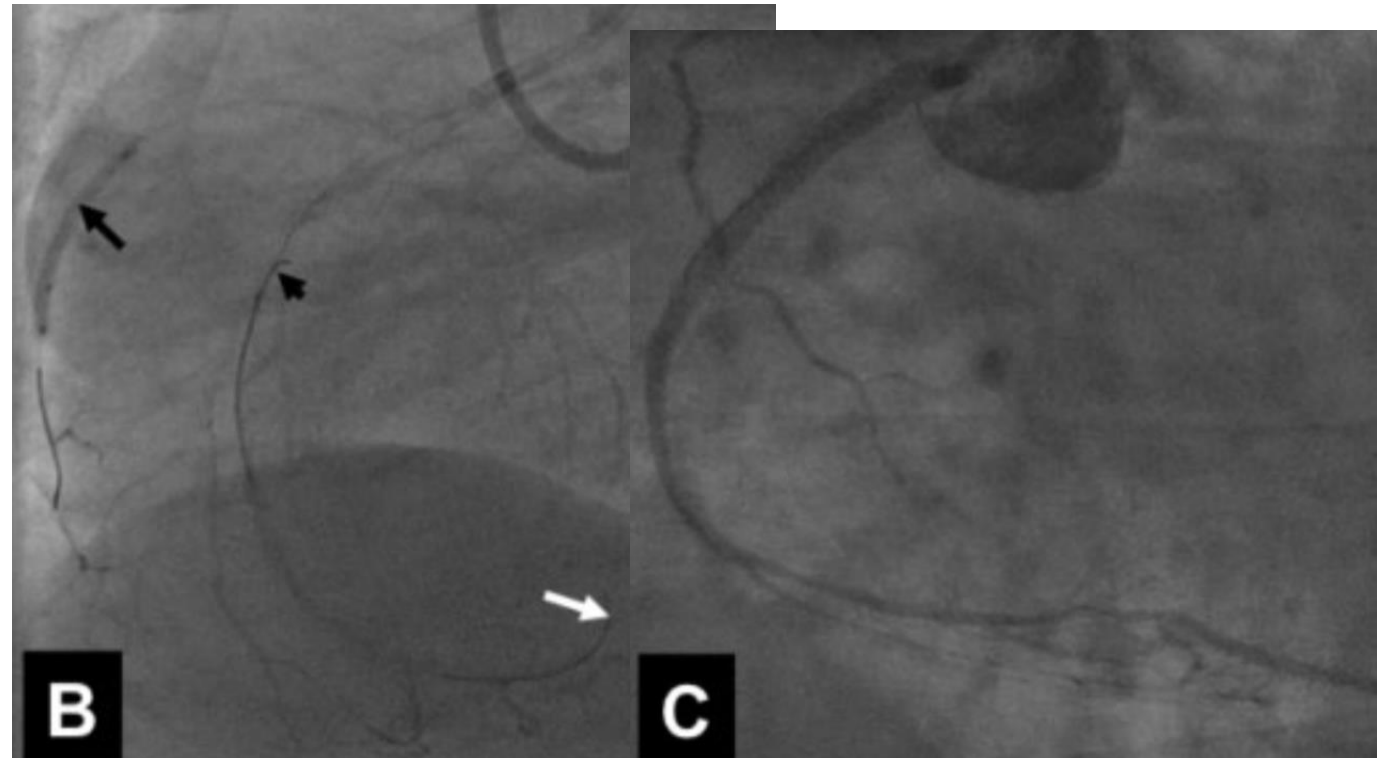
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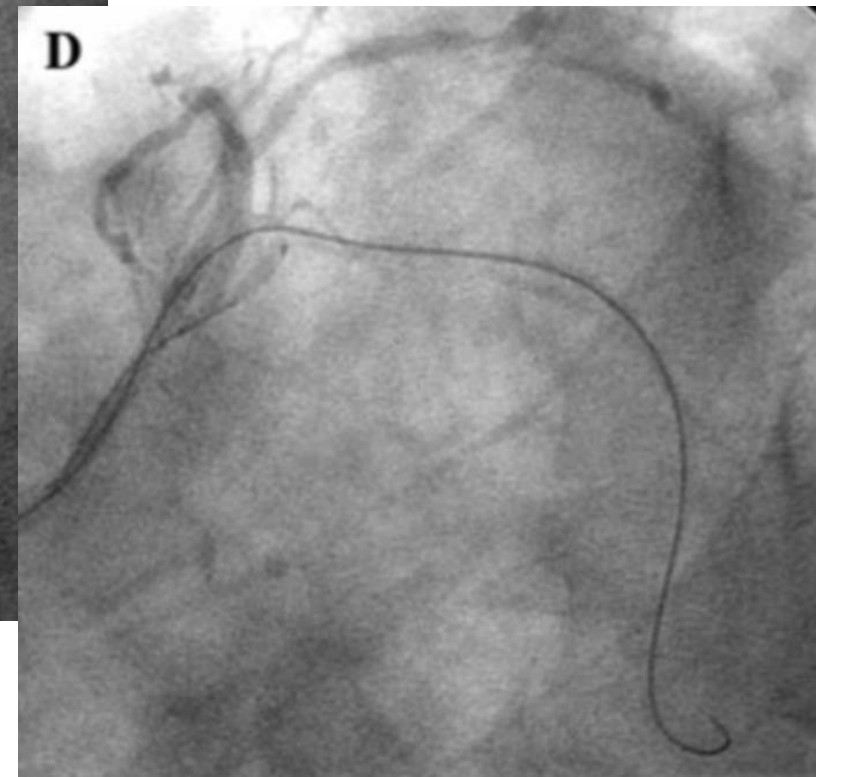
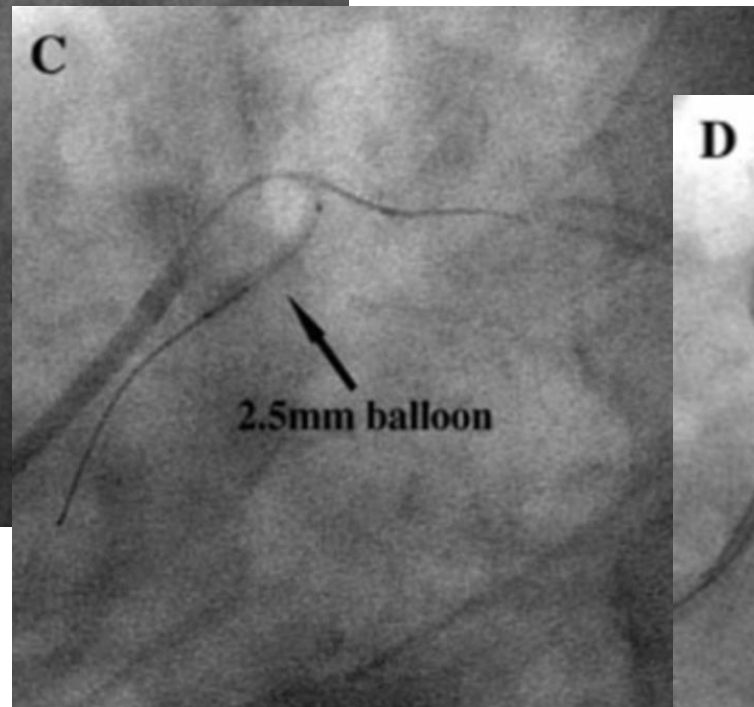
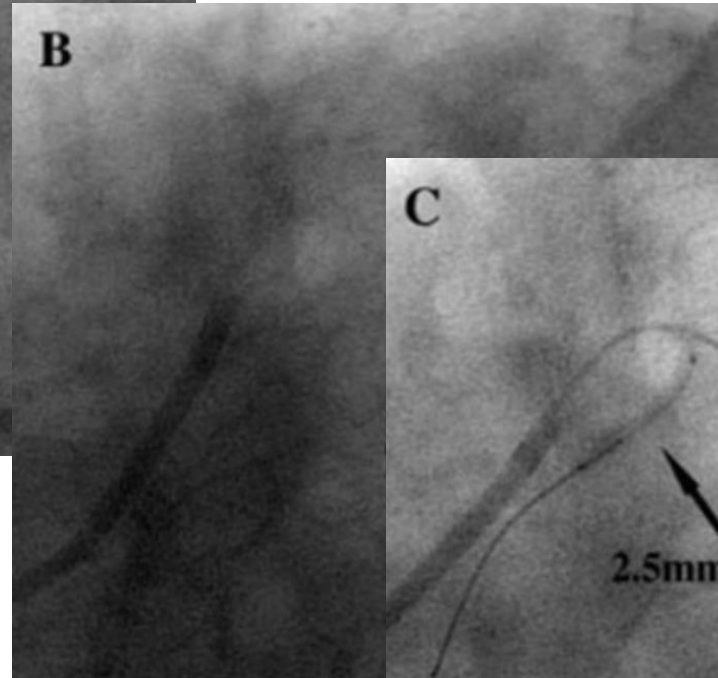
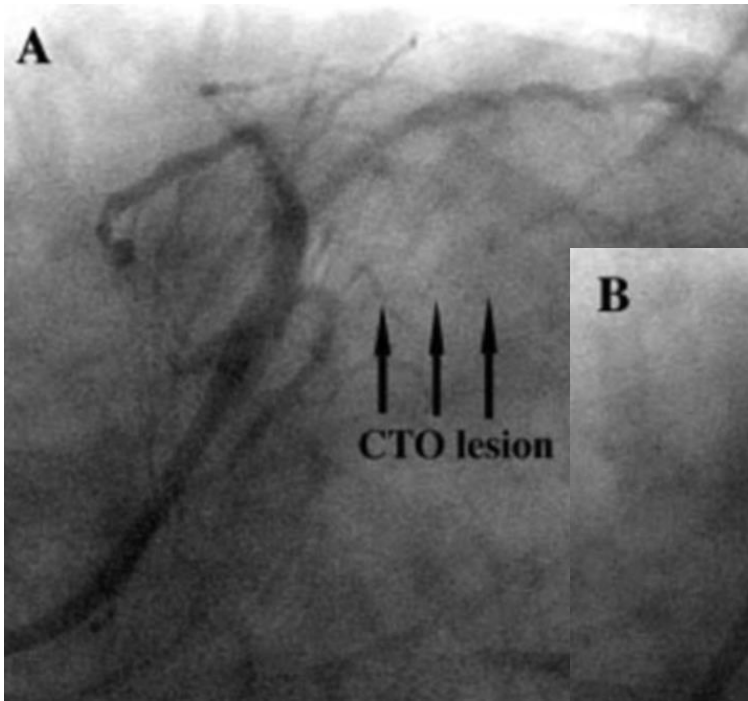


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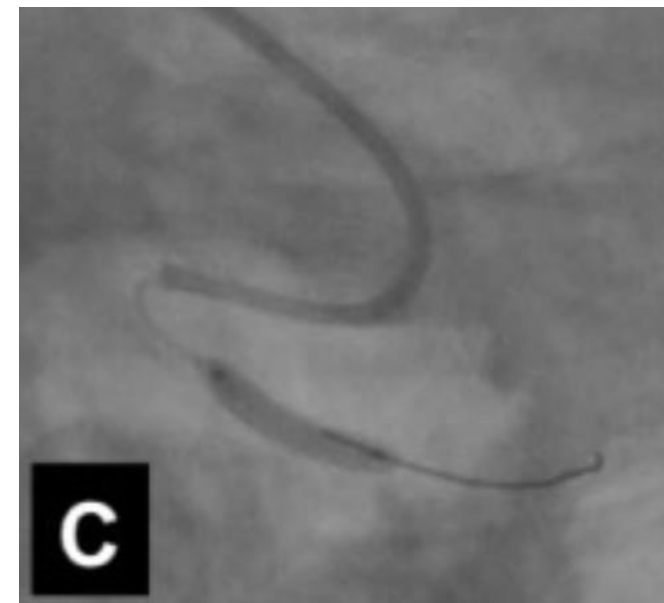
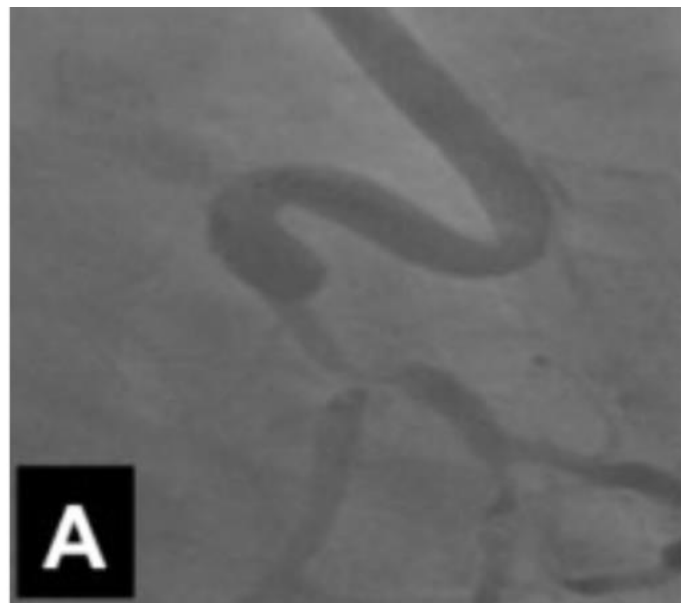
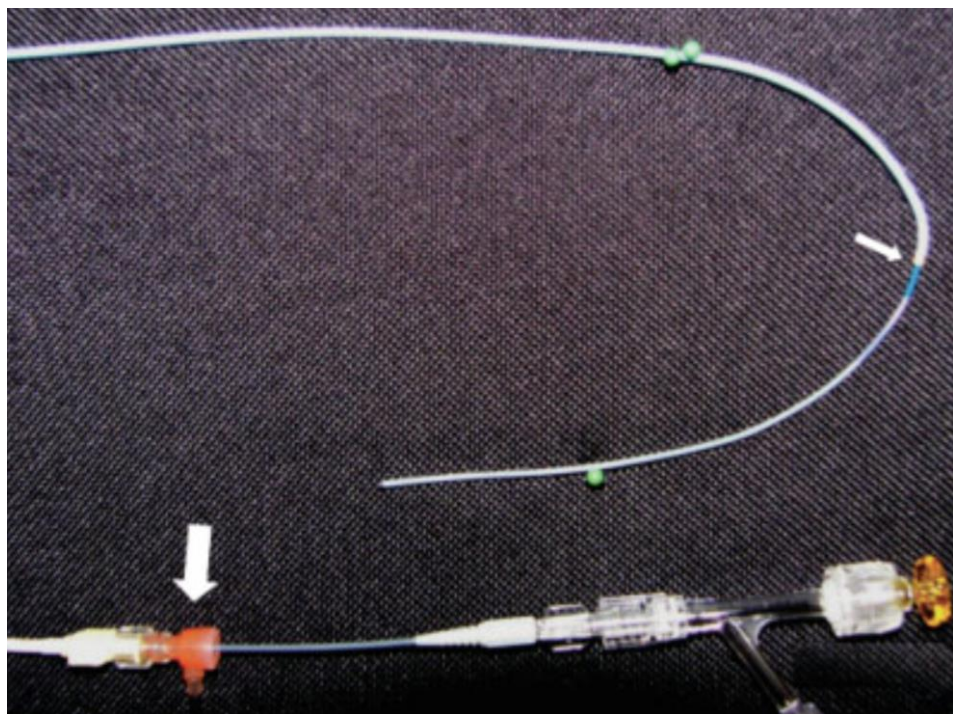




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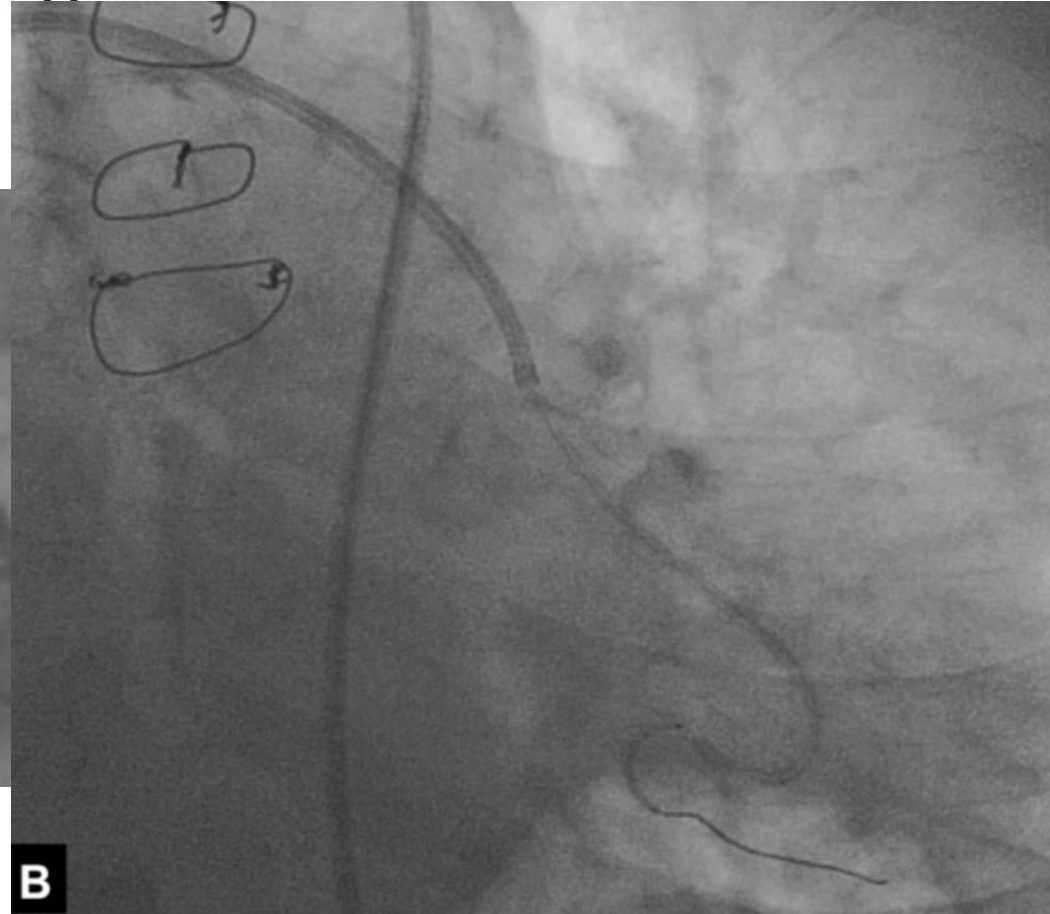
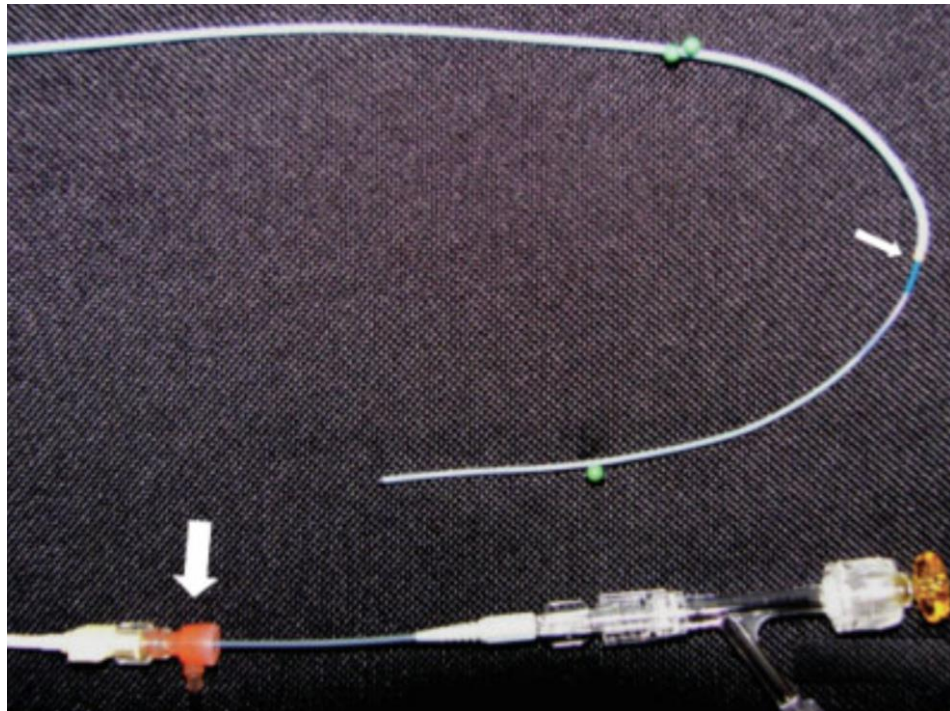
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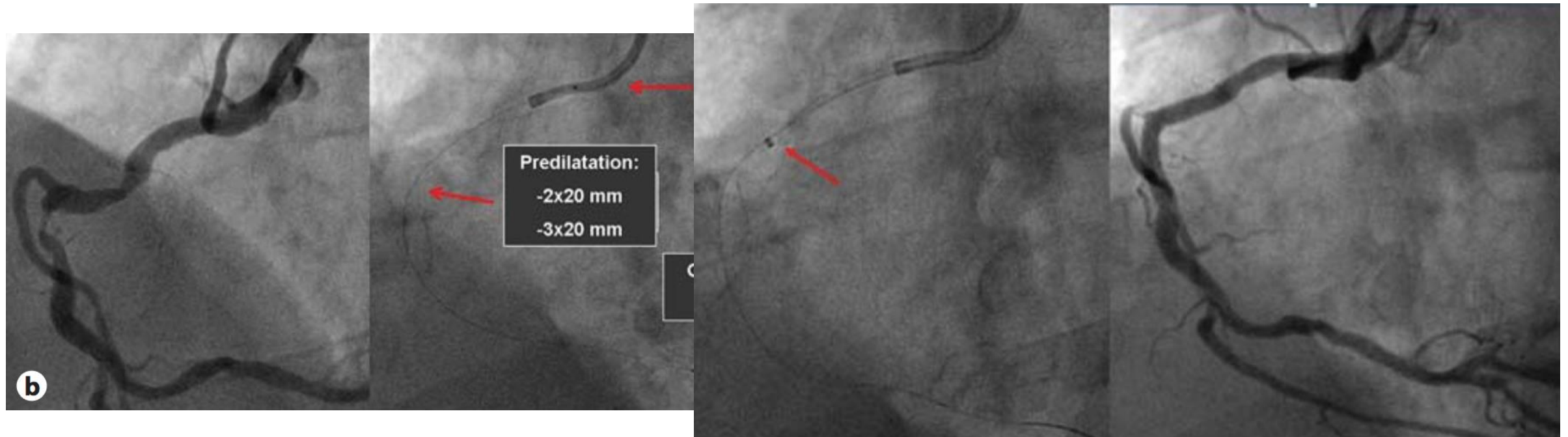




# Usefulness and Safety of a Guide Catheter Extension System for the Percutaneous Treatment of Complex Coronary Lesions by a Transradial Approach

Sergio García-Blas Julio Núñez Luis Mainar Gema Miñana Clara Bonanad  
Paolo Racugno Juan Carlos Rodríguez Patricia Moyano Juan Sanchis

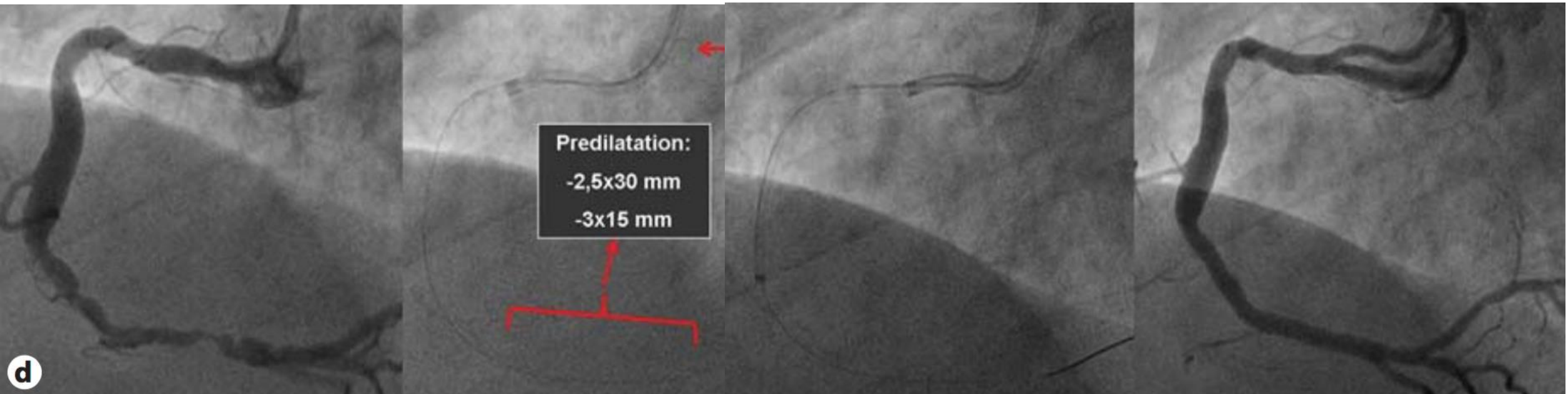
Department of Cardiology, Hospital Clínico Universitario de Valencia, Valencia, Spain



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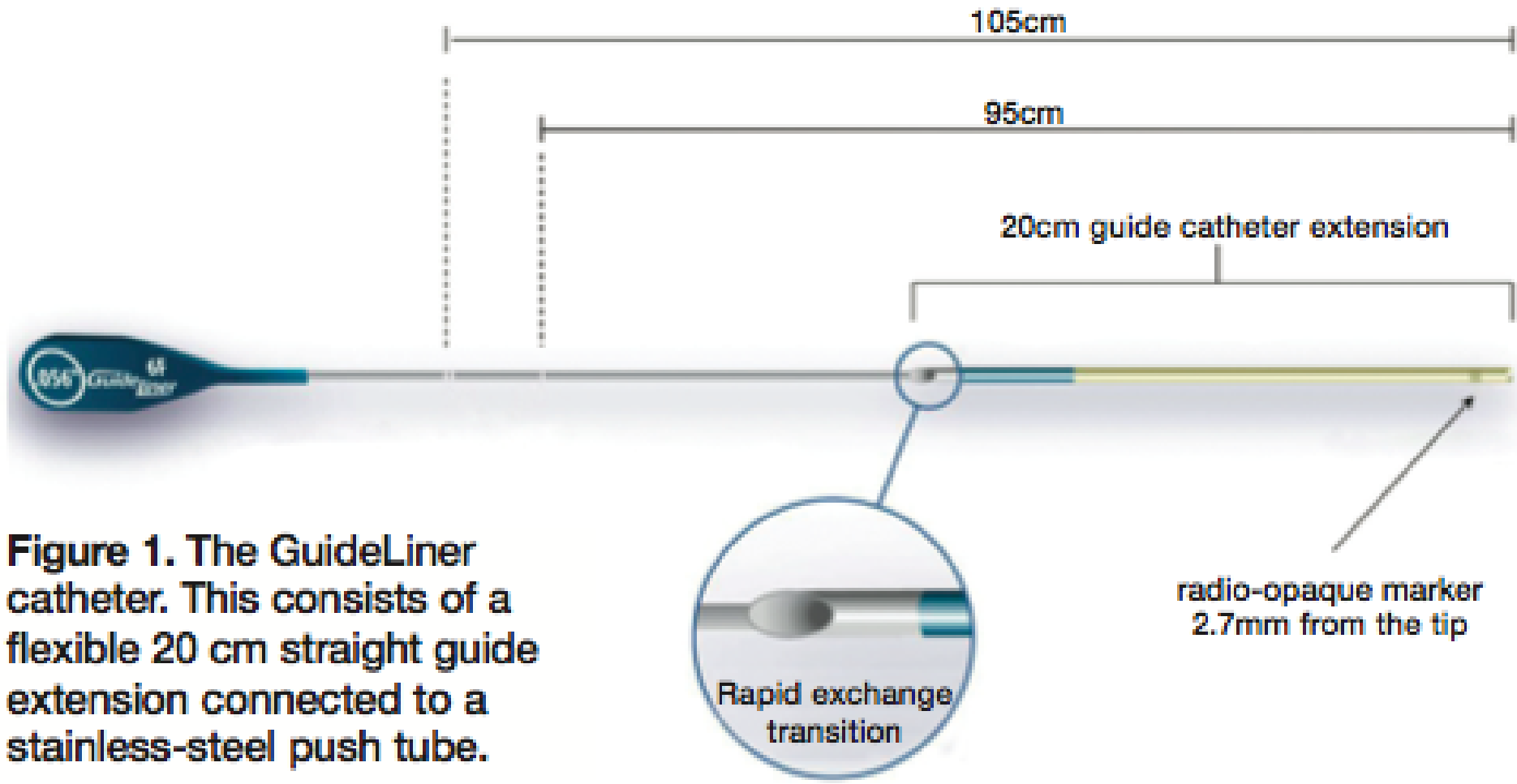
*Guide catheter  
positioned at ostium  
of RCA*



*Tip of GuideLiner  
deployed into  
RCA*



*GuideLiner  
advanced distally up  
to 10cm into vessel*



**Figure 1. The GuideLiner catheter. This consists of a flexible 20 cm straight guide extension connected to a stainless-steel push tube.**

# Conclusions

- Le nombre des angioplasties complexes (CTO, lésions calcifiées) a connu un essor considérable.
- L'évolution des cathéters guides a permis de gagner encore en efficacité
- La voie radiale et le risque hémorragique nous a imposé naturellement l'utilisation des KT guides de moins de 7F
- Les KT guides sheathless sont une solution séduisante
- Pour un meilleur support actif à côté des techniques d'anchoring, les systèmes d'extension de cathéter guide (technique Mother and Child) sont particulièrement intéressants pour traiter ce type de lésions complexes puisqu'ils permettent des intubations hypersélectives offrant ainsi support et coaxialité