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BIFURCATION CLUB

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## Second Meeting of the (EBC) European Bifurcation Club

Friday 29 - Saturday 30  
September 2006

GRAND HOTEL  
Palazzo Carpegna

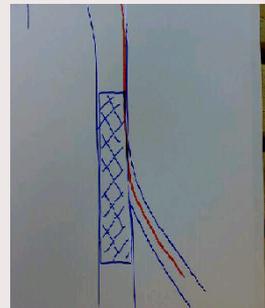


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UNITE-SOINS  
--CARDIOLOGIE  
INTERVENTIONNELLE



Unfallkrankenhaus  
Berlin





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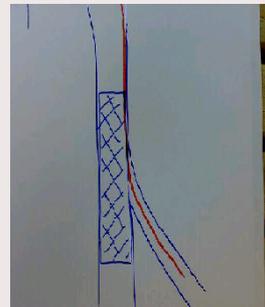
## Jailed wire - rationale

### Advantage of jailing

#### Insertion of 2nd wire

- widened bifurcation angle, esp. in T-shaped bifurcations, facilitates access
- preserves side branch patency by opening a slit like access
- permits side branch ostium location in case of occlusion after main branch stenting

Louvard Heart 2004; 90:713-22





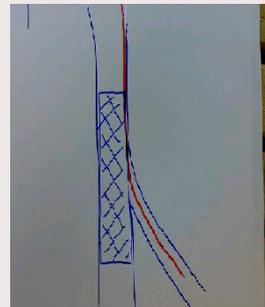
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## Jailed wire - rationale

TULIPE Study (jailing in 77%):

Non-use of jailed wire is associated with reinterventions in follow up (OR 4.26).

Angiographic success rate 69.2 % in absence of jailed wire (vs 92.1%).





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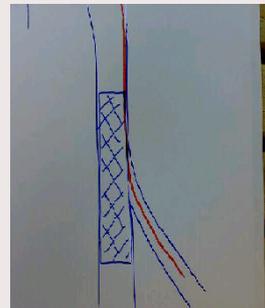
## How often needed

Balloon angioplasty 14 % occlusions

Stenting: 6-18 % occlusions

(Fischman JACC 1993;22:1241-6)

(Parsi AHJ 1995;129:436-40)

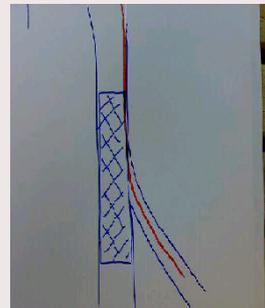




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# Complications

- distal wire rupture
- deep guiding catheter engagement during retraction of jailed wire





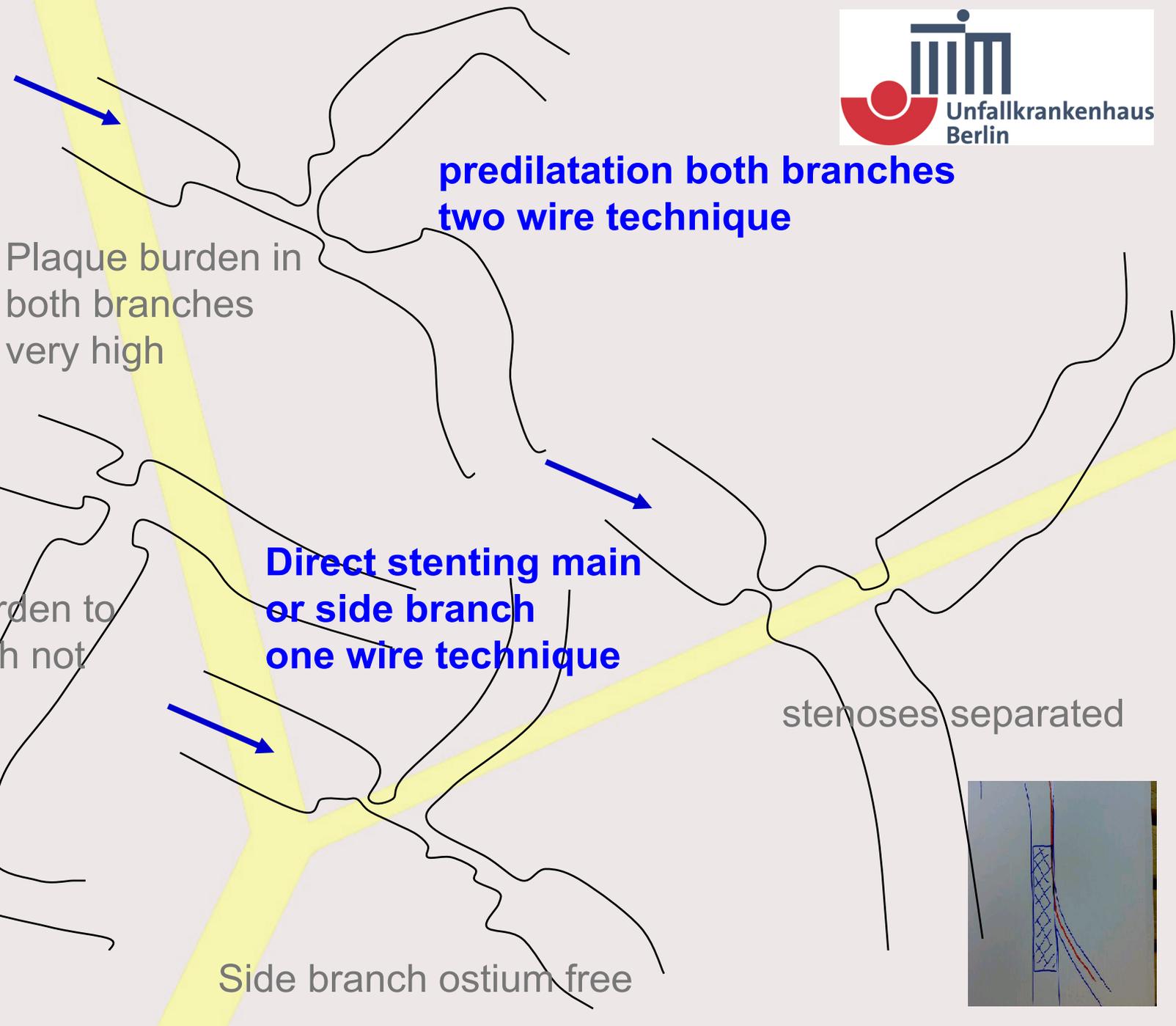
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**predilatation both branches  
two wire technique**

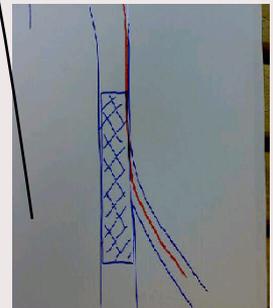
Plaque burden in  
both branches  
very high

**Direct stenting main  
or side branch  
one wire technique**

Plaque burden to  
side branch not  
very high

stenoses separated

Side branch ostium free





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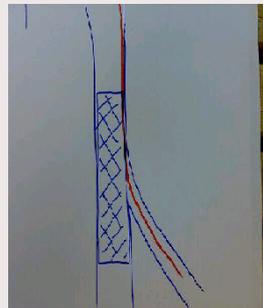
## Ways to avoid jailing of wire

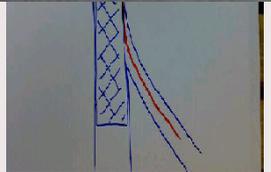
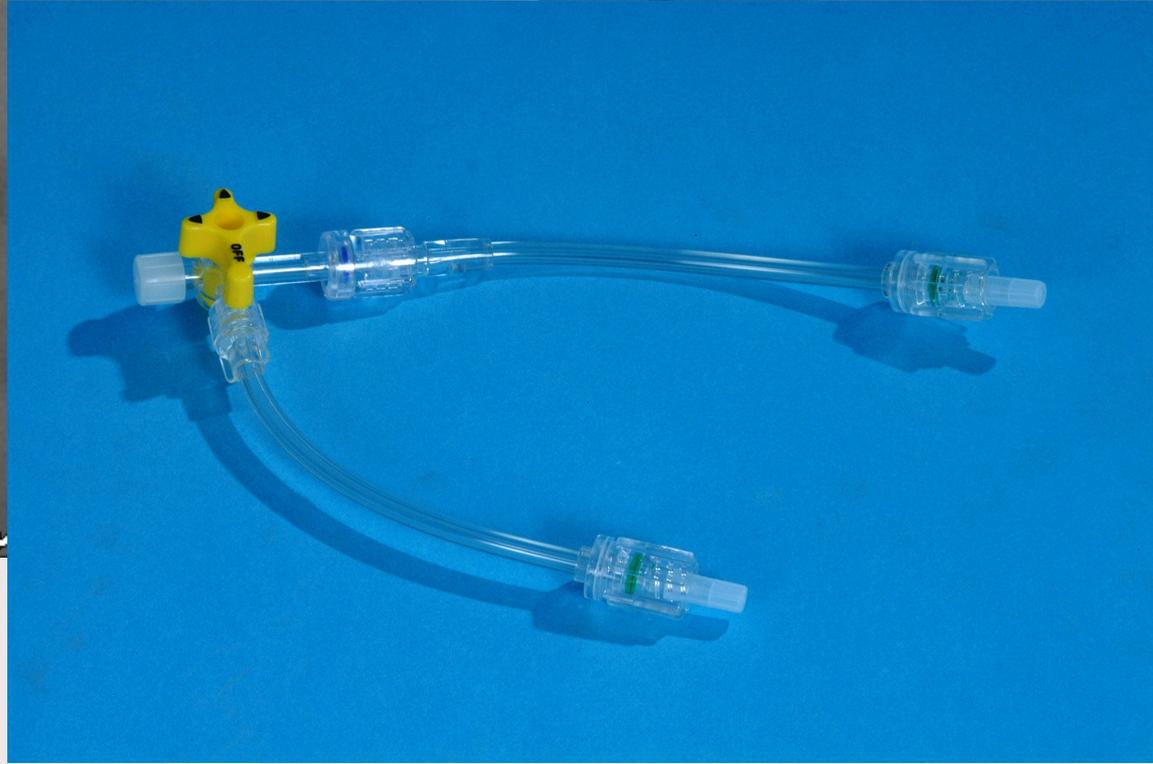
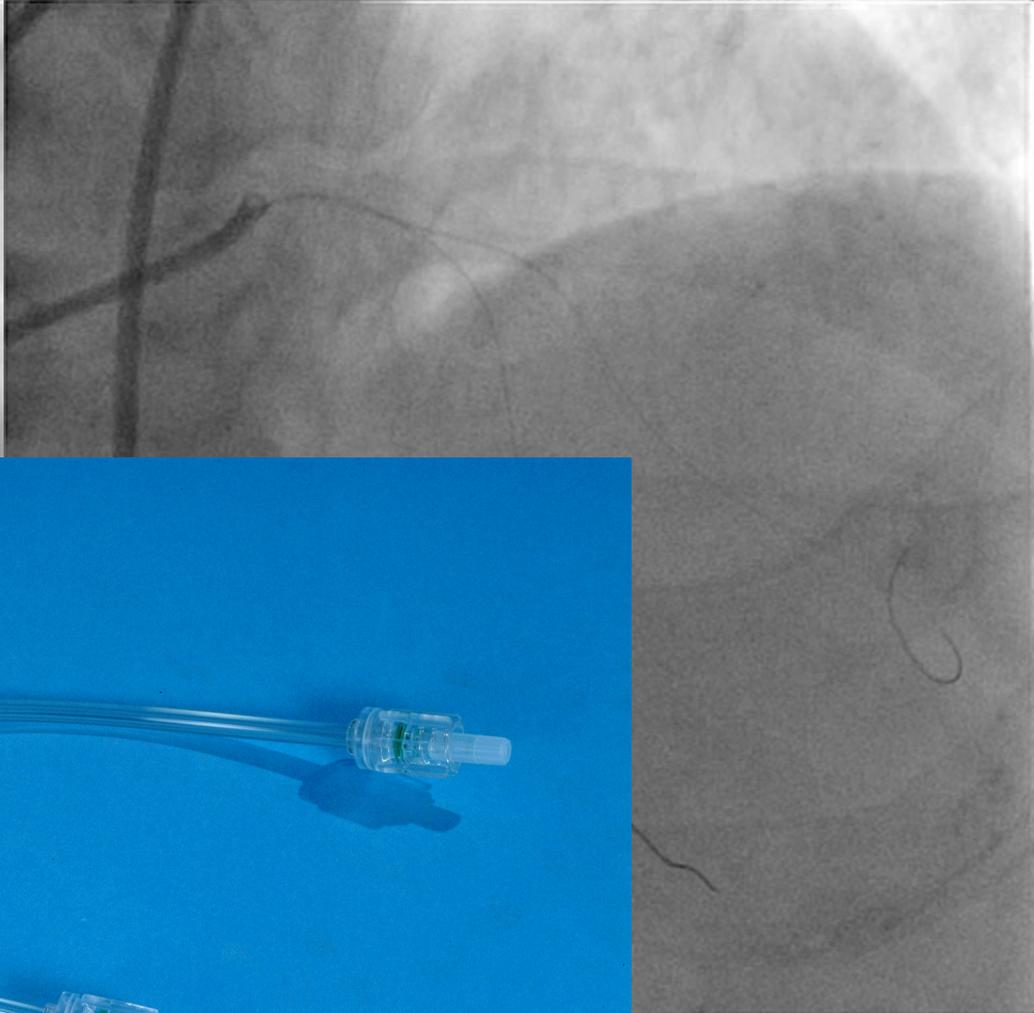
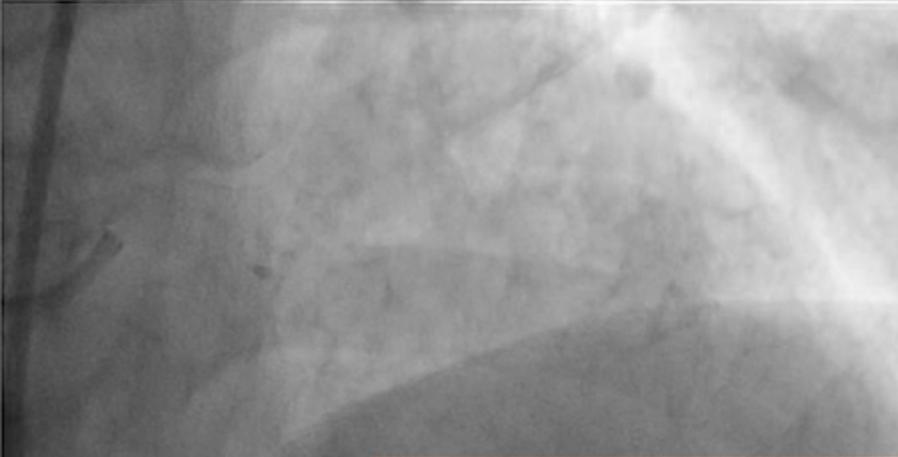
**kissing predilatation**

crush technique

kissing stent technique

highly flexible thin strut stents

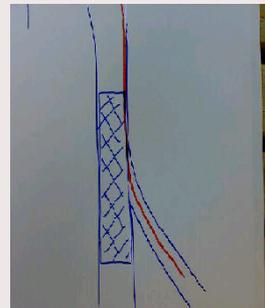
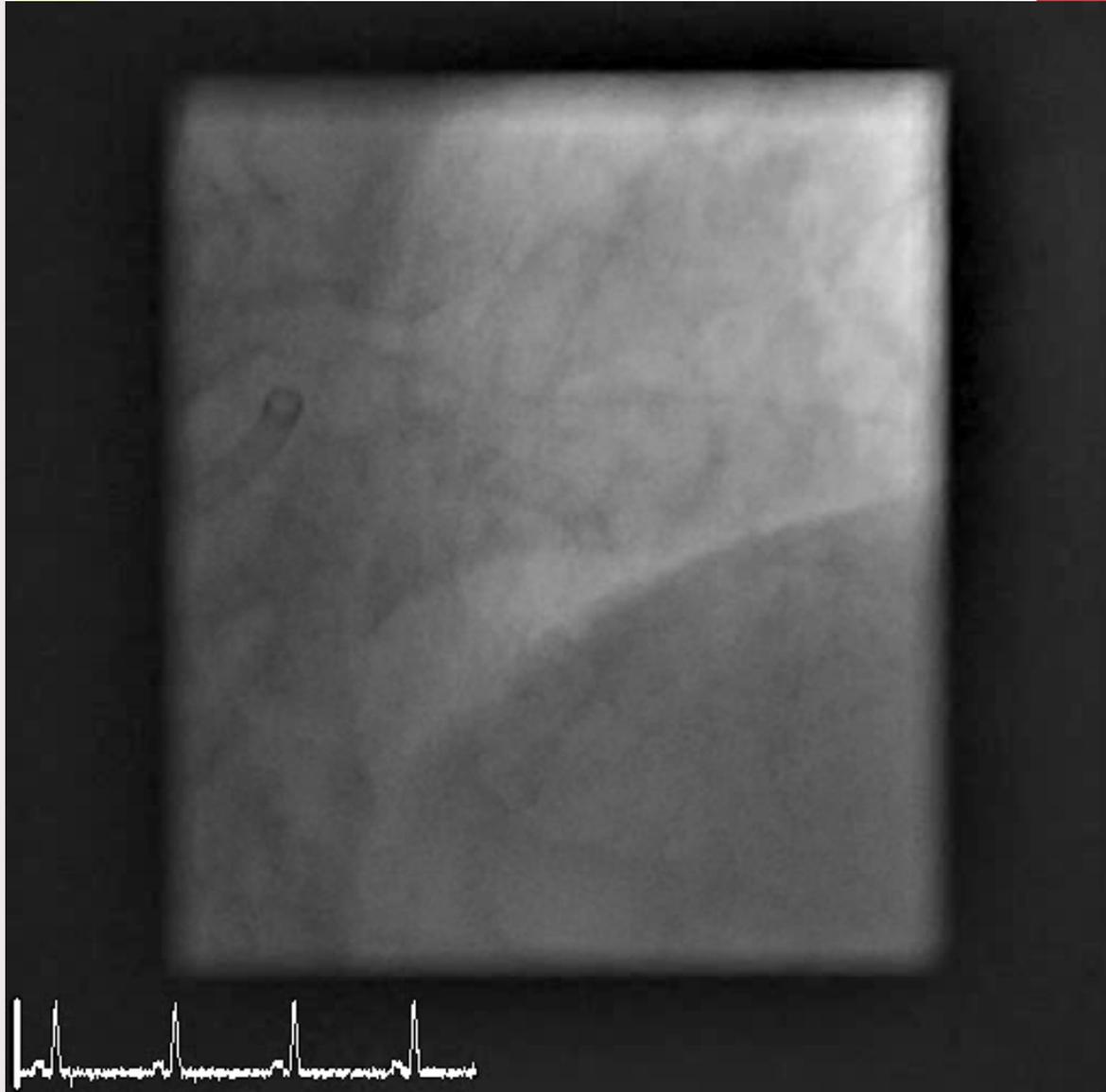






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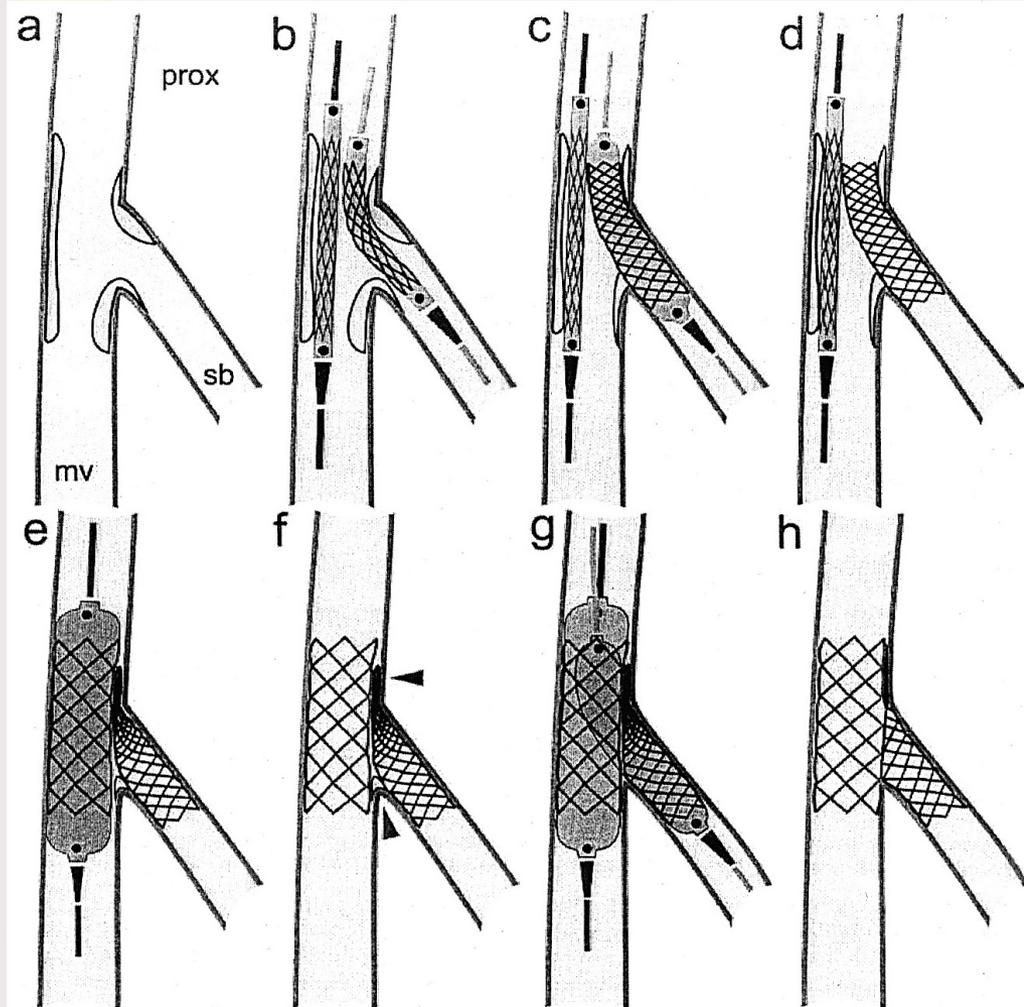
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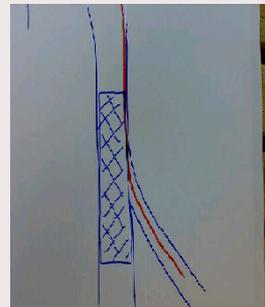


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## Ways to avoid jailing of wire



Sianos Cath & Cardiovascular Interventions 2006; 67: 839-45





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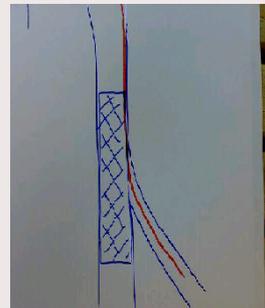
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highly flexible thin strut stents



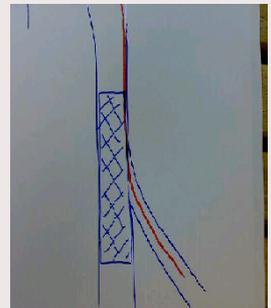
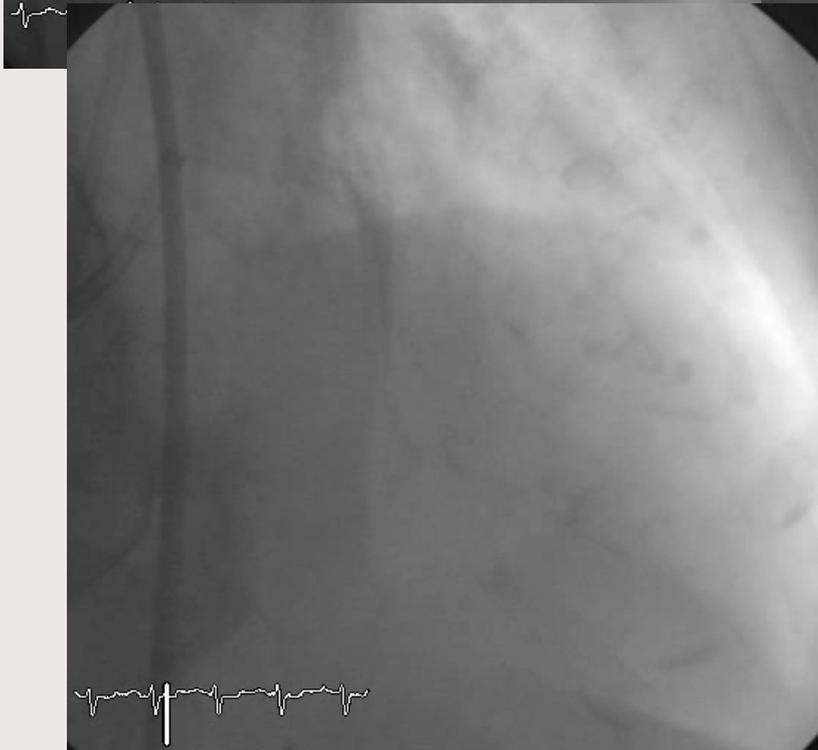


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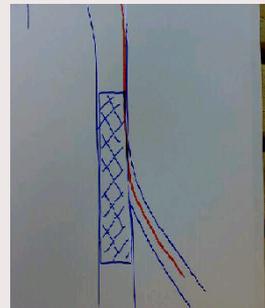
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## A plea for simple techniques:



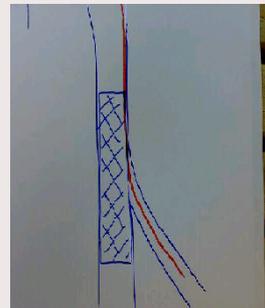


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## A plea for simple techniques: provisional kissing dilatation in 48.1 % in simple group

	simple group	complex group
diameter % post	20,1	-1,9
angiographic restenosis 6 months	5,3	24,4
survival 18 months %	100	85,7

Kim AJC 2006;97:1597-1601



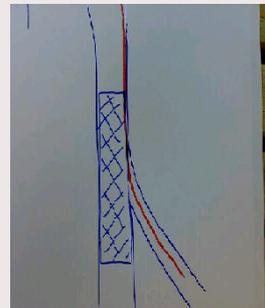


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## A plea for simple techniques:

Kissing Ballon post-dilation significantly reduced the side branch late lumen loss after Crush Technique (late lumen loss 0.24 vs 0.58 mm;  $p < 0.001$ ).

Hoye JACC 2206; 47:1949-58



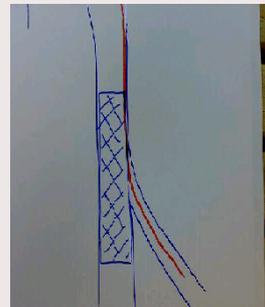


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## A plea for simple techniques:

kissing balloon post dilation significantly reduced both the side branch late lumen loss ( $0.24 \pm 0.50$  mm vs.  $0.58 \pm 0.77$  mm,  $p < 0.001$ ) and binary restenosis rate (9.6 % vs. 41.3 %,  $p 0.000001$ ).

Ge et al. (10) JACC 2005; 46: 613-20





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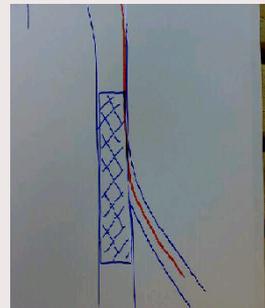


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## Acute and Long-Term Results of the Bifurcation Stenting With COroflex Registry

Sascha Rux<sup>a</sup>, MD, Steffen Sonntag<sup>a</sup>, MD, Ralph Schulze<sup>b</sup>, MD, Matthias Rau<sup>c</sup>, MD, Frank Weber<sup>d</sup>, MD, Associated Prof. of Medicine, Holger Mühling<sup>e</sup>, MD, Angelo Cioppa<sup>f</sup>, MD, Franz Xaver Kleber<sup>a\*</sup>, MD, Prof. of Medicine, on behalf of the BISCOR investigators

in press Am J Cardiol Nov. 2006





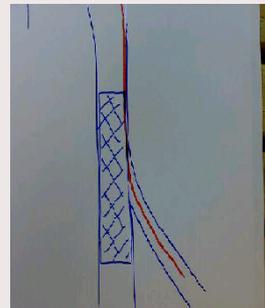
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## TABLE 3 BISCOR Procedural data and final Strategy 421 patients

Final kissing balloon inflation	1.9%
Stent m-v alone	16.9%
Stent m-v + PTCA sb	71.3%
Stent into sb and PTCA m-v	1.2%
Stent both branches	10.7%
1 stent implanted	85.5%
>1 stent implanted	14.5%

Rux...Kleber in press Am J Cardiol Nov. 2006



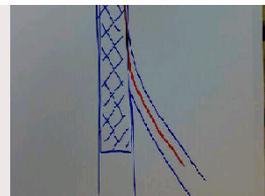


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# 6-months MACE: Berlin experience



	<b>BISCOR</b>	<b>ukbBMS</b>	<b>ukbDES</b>	<b>p</b>
	<b>(n=421)</b>	<b>(n=306)</b>	<b>(n=72)</b>	
<b>Interv. TLR</b>		<b>12.0 %</b>	<b>8.3 %</b>	<b>n.s.</b>
<b>CABG</b>		<b>4.0 %</b>	<b>1.4 %</b>	<b>n.s.</b>
<b>Any TVR</b>	<b>17.3</b>	<b>15.3 %</b>	<b>9.7 %</b>	<b>n.s.</b>
<b>Death</b>	<b>3.1</b>	<b>3.2%</b>	<b>0.0 %</b>	<b>n.s.</b>
<b>6 mo MACE</b>	<b>22.4</b>	<b>19.3 %</b>	<b>11.1 %</b>	<b>&lt; 0.02</b>





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# Bifurcation Stenting 6 months MACE rate



<b>Paris registry BMS</b>	<b>n = 366</b>	<b>21.6</b>	<b>%</b>
<b>Pan BMS</b>	<b>n = 126</b>	<b>19.0</b>	<b>%</b>
<b>Pan DES</b>	<b>n = 91</b>	<b>6.6</b>	<b>%</b>
<b>Colombo DES</b>	<b>n = 85</b>	<b>17.6</b>	<b>%</b>
<b>Tanabe/Serruys DES</b>	<b>n = 58</b>	<b>10.3</b>	<b>%</b>
<b>Tulipe BMS</b>	<b>n = 186</b>	<b>22.9</b>	<b>%</b>
<b>BISCOR</b>	<b>n = 421</b>	<b>22.4</b>	<b>%</b>
<b>ukb BMS</b>	<b>n = 316</b>	<b>19.3</b>	<b>%</b>
<b>ukb DES</b>	<b>n = 70 (51)</b>	<b>11.1</b>	<b>%</b>

**Lefèvre Cathet Cardiovasc Intervent 2000;49:274**

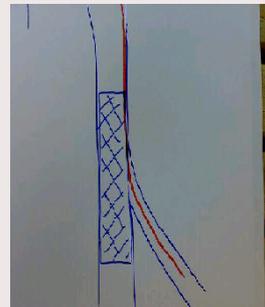
**Pan Cathet Cardiovasc Intervent 2002;55:50-57**

**Pan Am Heart J 2004;148:857-64**

**Colombo Circ 2004; 109:1244-49**

**Tulipe Cath & Cardiovasc Interv. 2006; 68:67**

**Tanabe AJC 2004;91:115-8**





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## Conclusions:

Jailed wire technique is necessary only in a minority of interventions

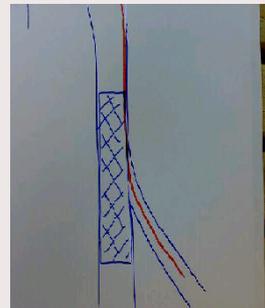
Several techniques are available that offer similar success rates as the jailed wire technique, including:

kissing predilatation

crush technique

kissing stent technique

highly flexible thin strut stents





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## Conclusions:

High end BMS allow an easy approach with similar results as compared to complex procedures  
most DES are still unsatisfying in terms of stent design esp. strut thickness, flexibility and distal distortion during side branch access, but offer a somewhat lower restenosis rate

Complex techniques in most DES are still mandatory for important side branches

