

Clinical Implication of Bench Test for Coronary Bifurcation

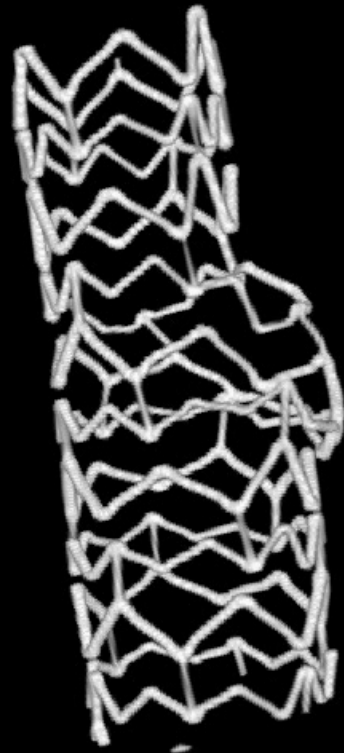
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- the model was made as realistic as possible using the x-ray machine while the bench test was operated.
- The bench test was kept in best condition using all possible devices for the clinical practice.
- Never had any negative intentions or actions that would lead us to make imperfect model.
- there is no unfair thoughts or expressions to certain products.

Kissing balloon technique

Single stent+KBT: Express2

Bench Test



Endoscopic finding

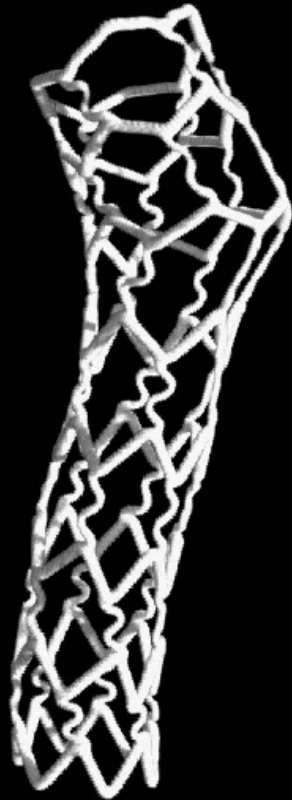


Similar to the real world

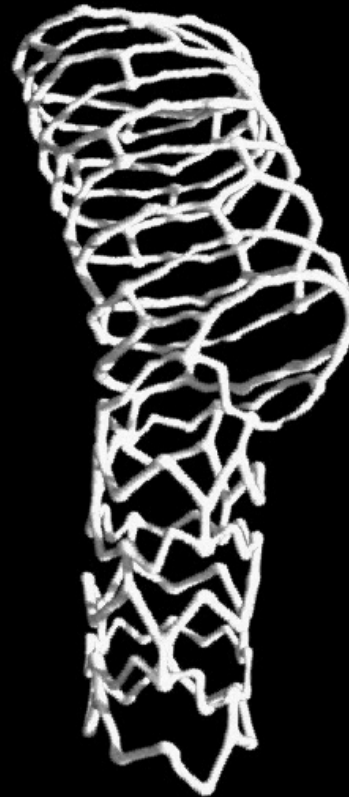


The three
dimensional
model

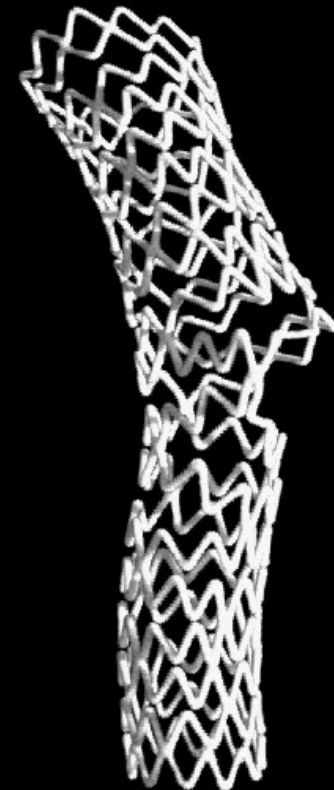
Single stent+KBT



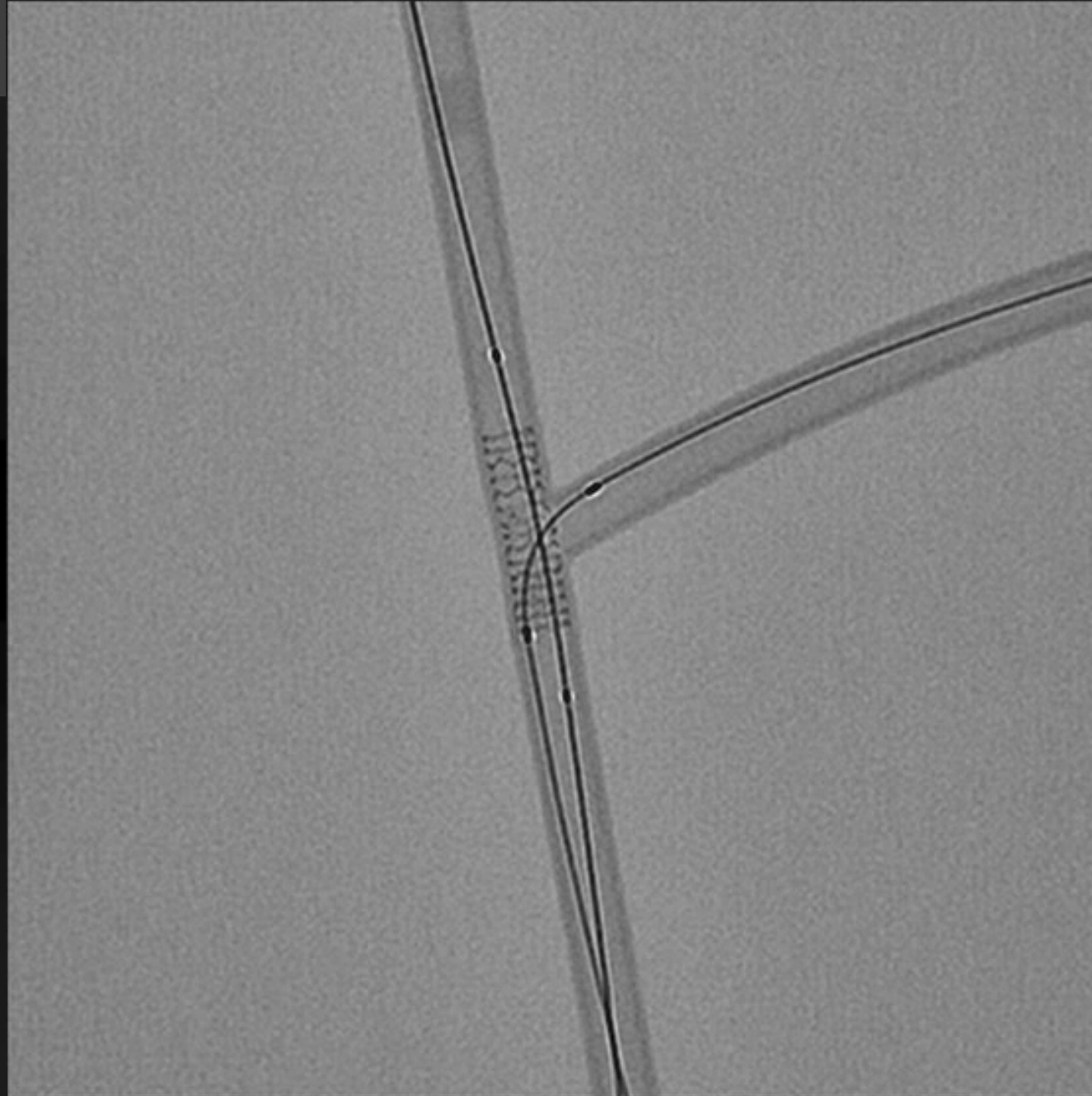
Cypher



TAXUS Express



ENDEAVOR



Side branch
inflation

4.0×4.0× 80°

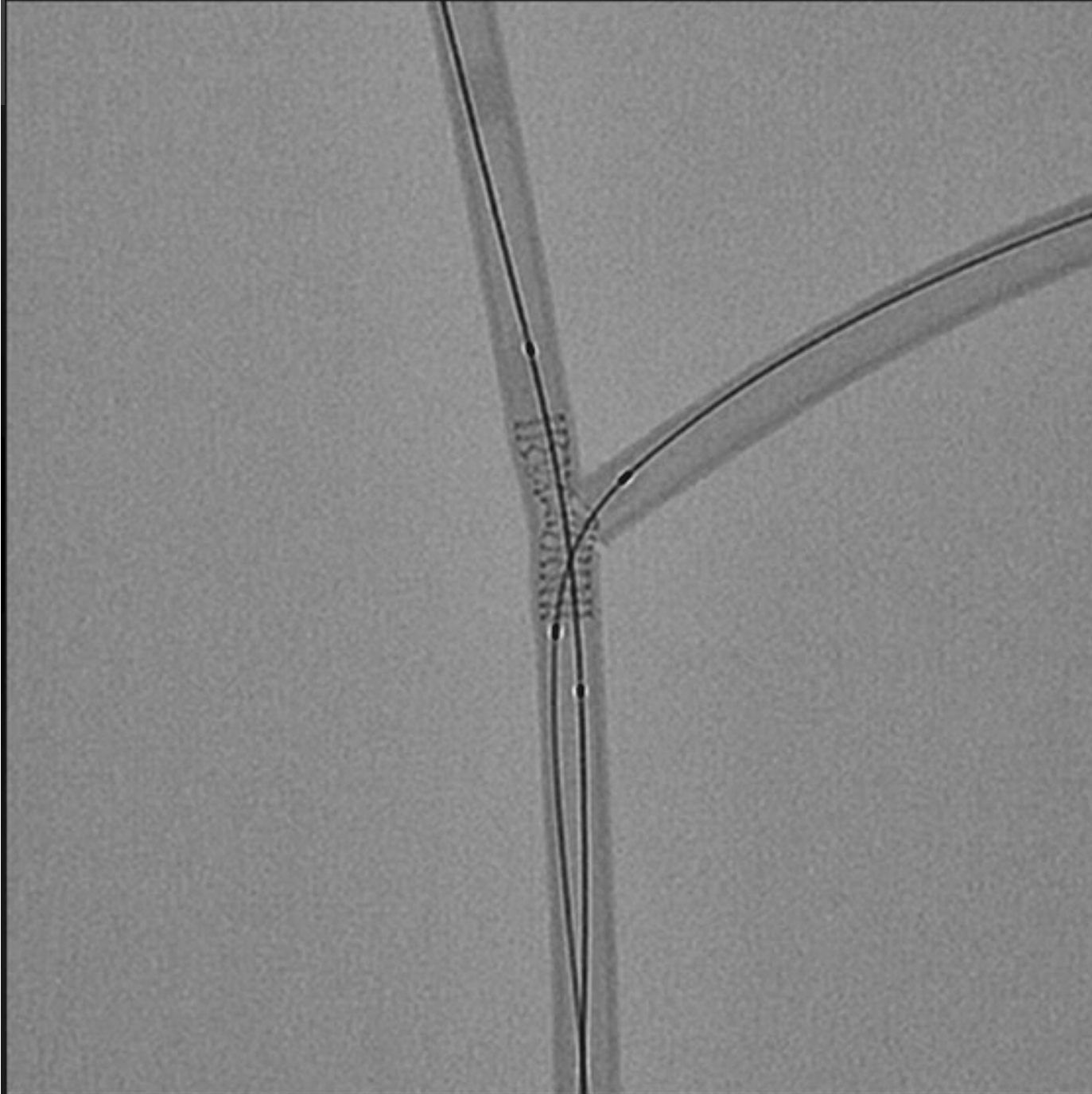
Express2

3.5mm Bal.

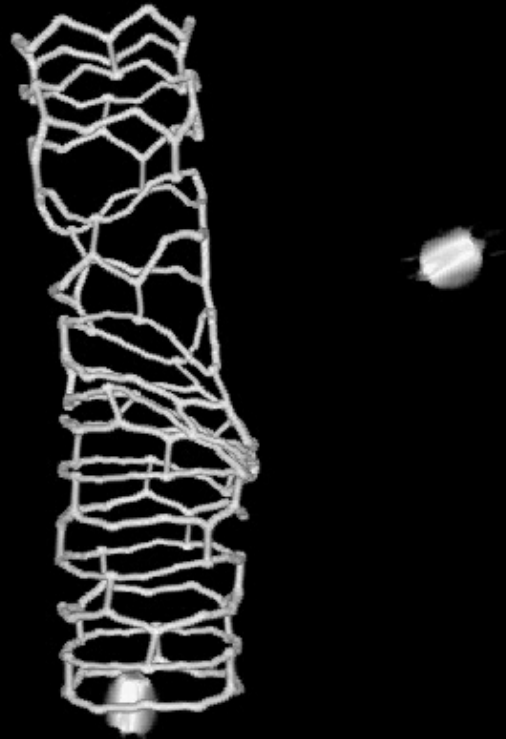
KBT

4.0 × 3.5mm

Simultaneous
inflation



Single stent+KBT: Express2



Tube size:

4.0 × 4.0mm

Bifurcation angle:

80°

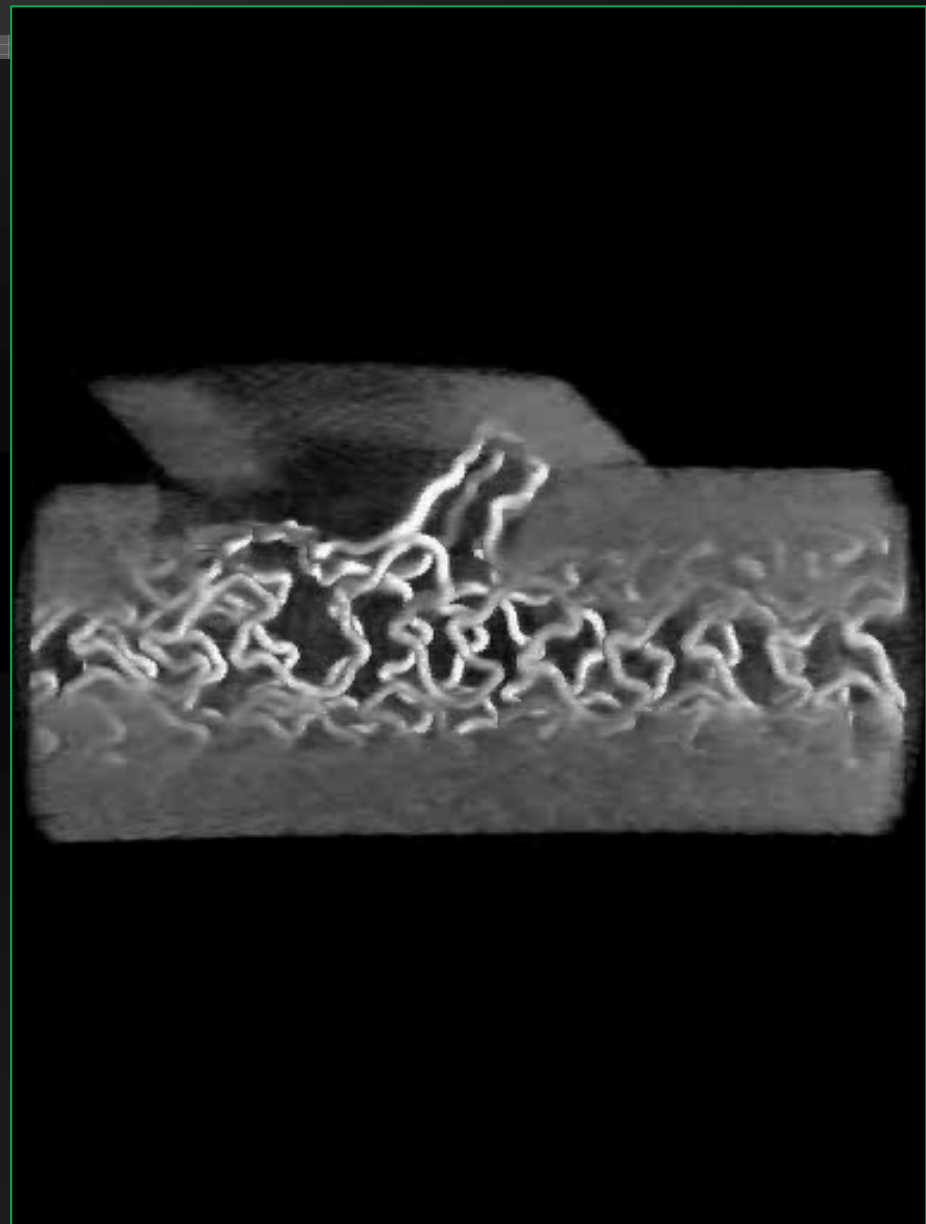
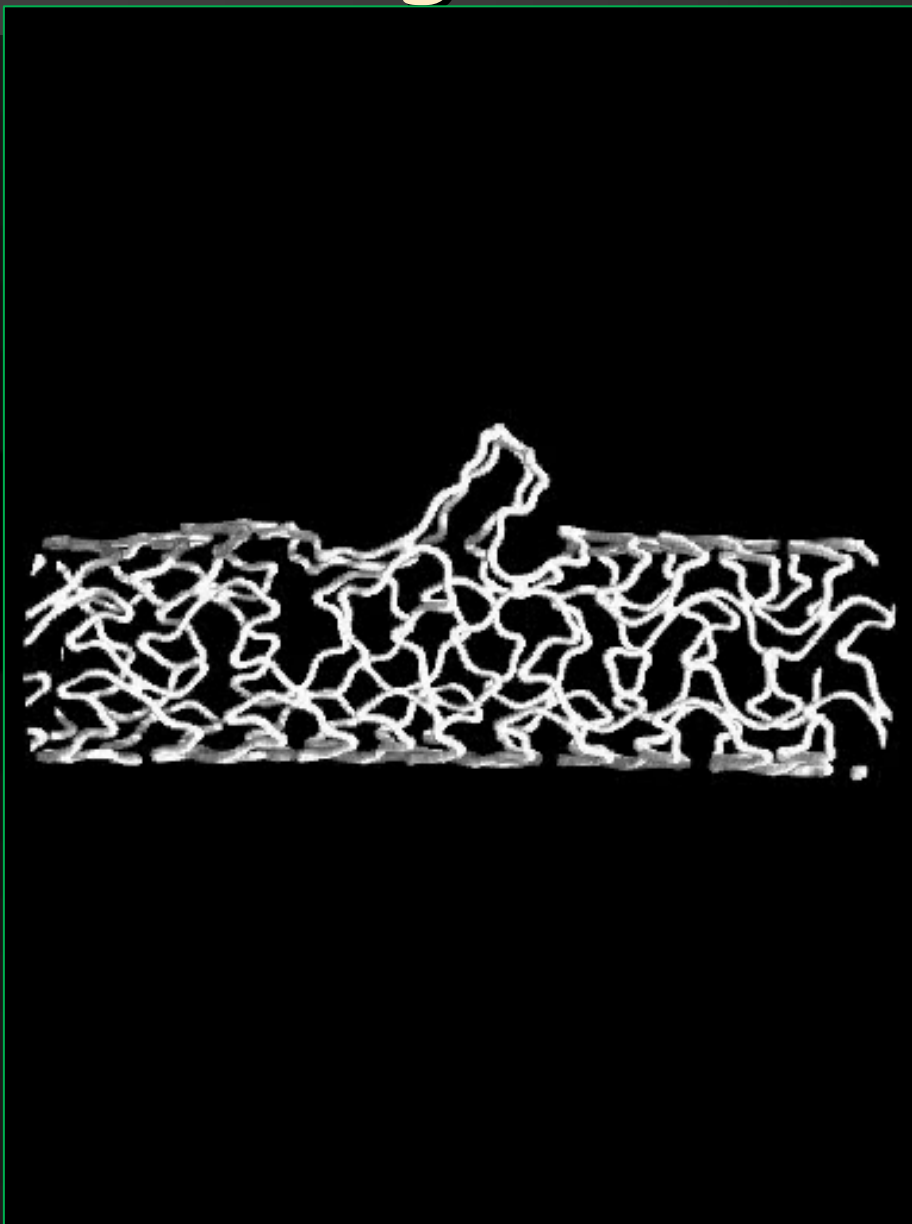
Stent size:

3.5mm

After KBT

4.0 × 3.5mm

Single stent+KBT: Liberte

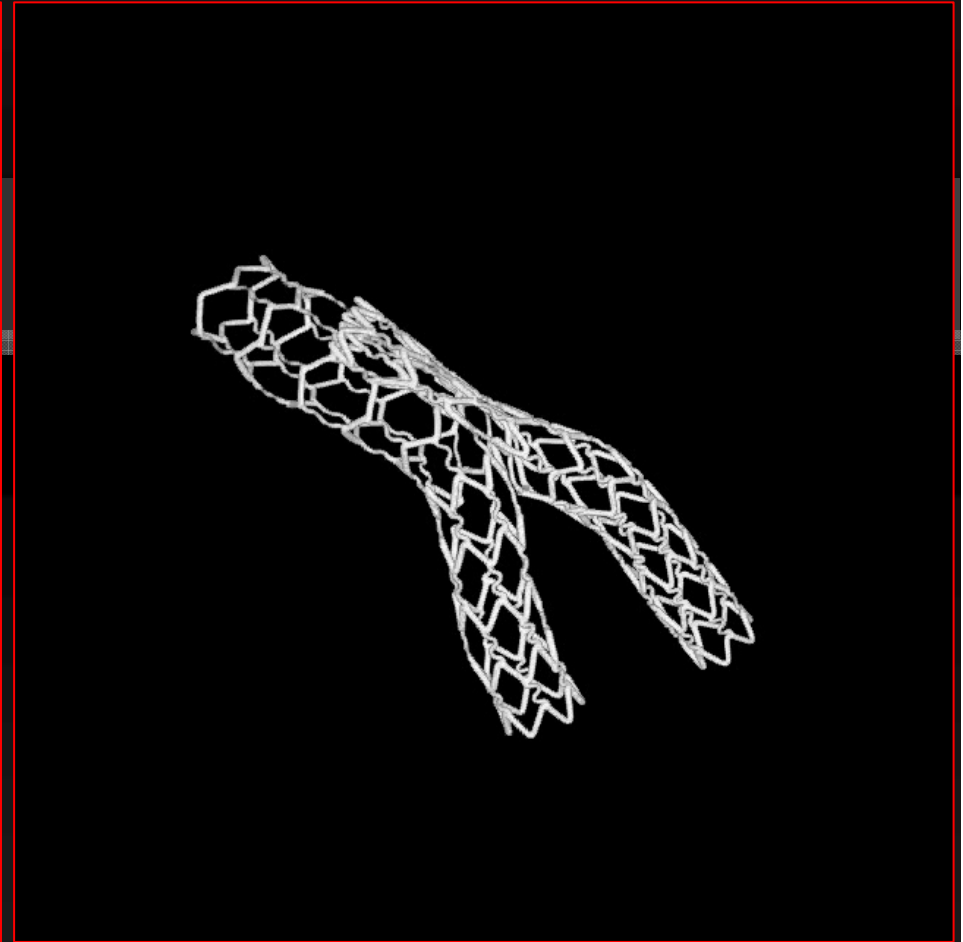


Conclusion 1

- The limits of dilation all depends on the designs of stents.
- When dilation is performed through the stent strut, the dilation needs to be done at the same time with main vessel.
- If the both side simultaneous dilation cannot be performed, then just dilating the side branch even with any size of balloon is not recommended.

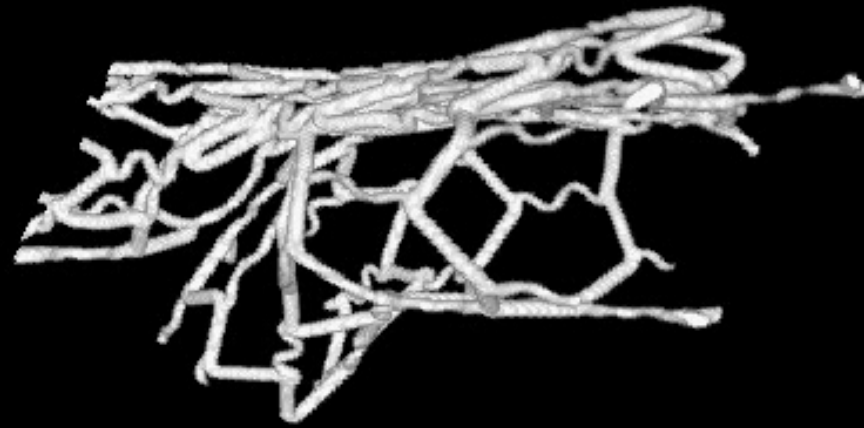
Crush stent

Crush stenting



Microfocus CT image

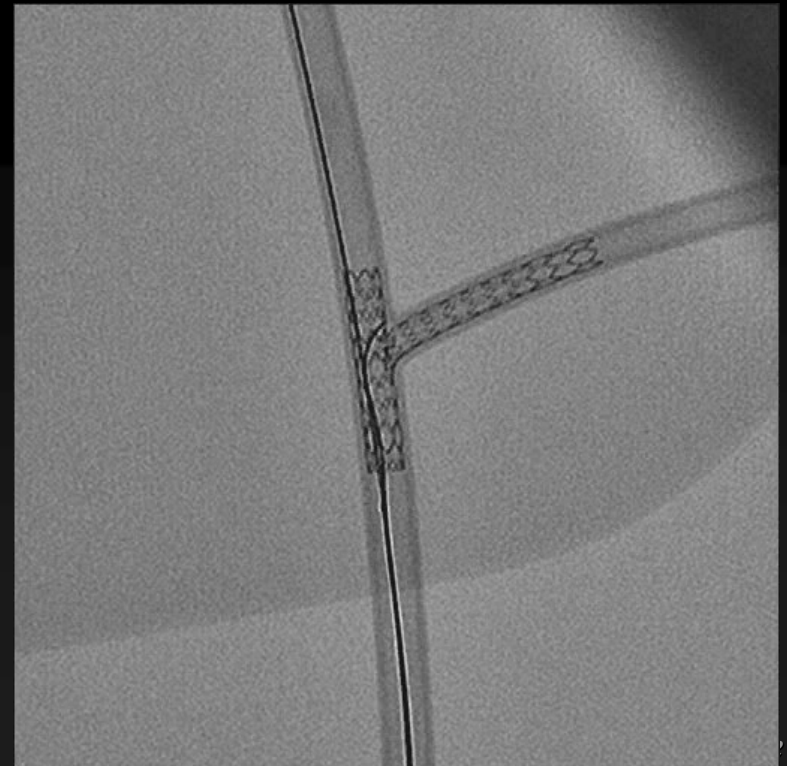
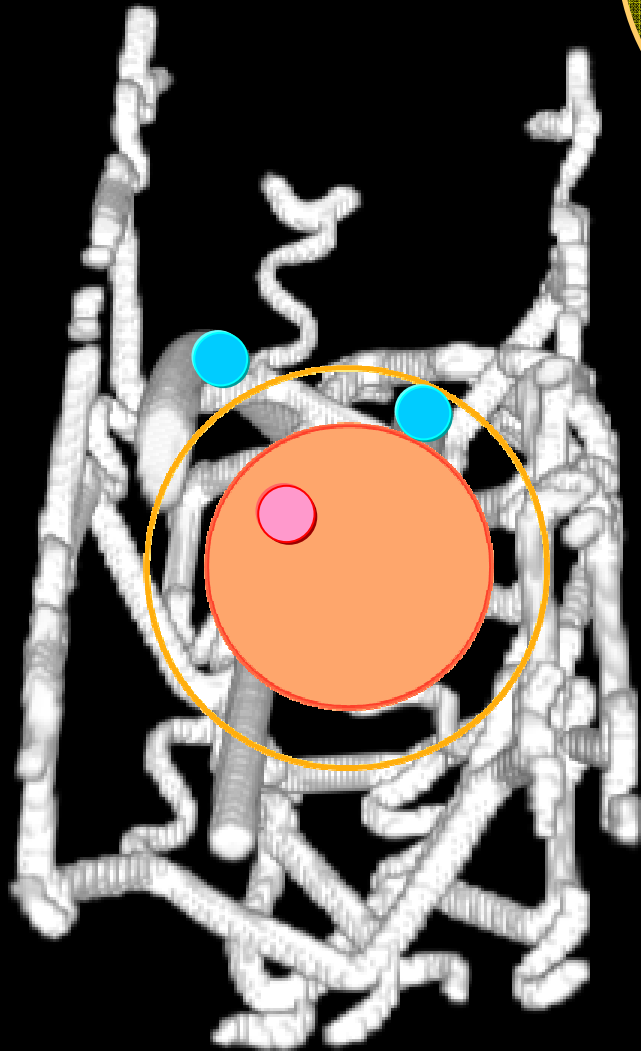
Crush stenting

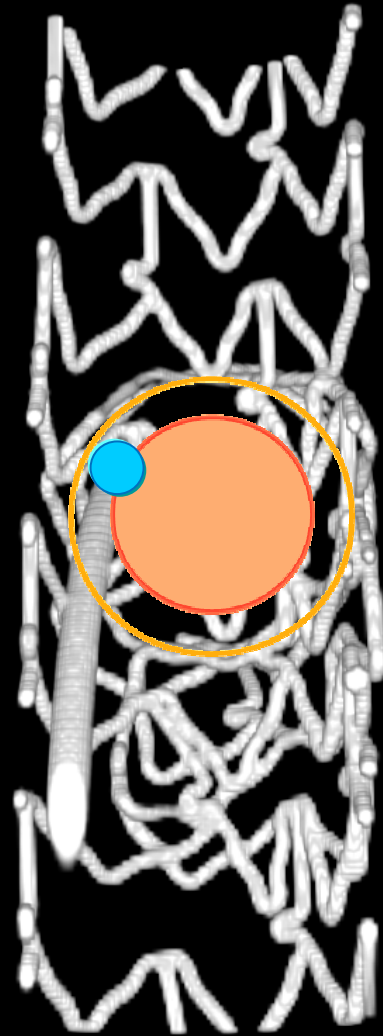


Recrossing point of GW

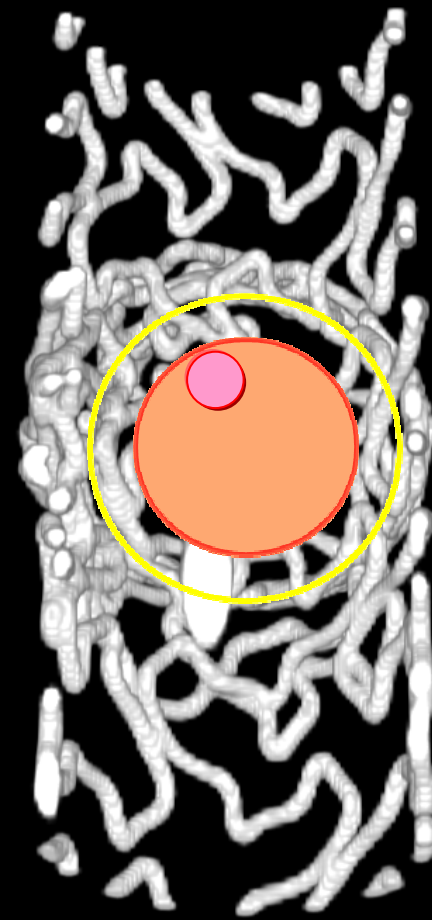
$$\div 2 =$$

- : Good Position
- : Not so good Position





XIENCE V × XIENCE V

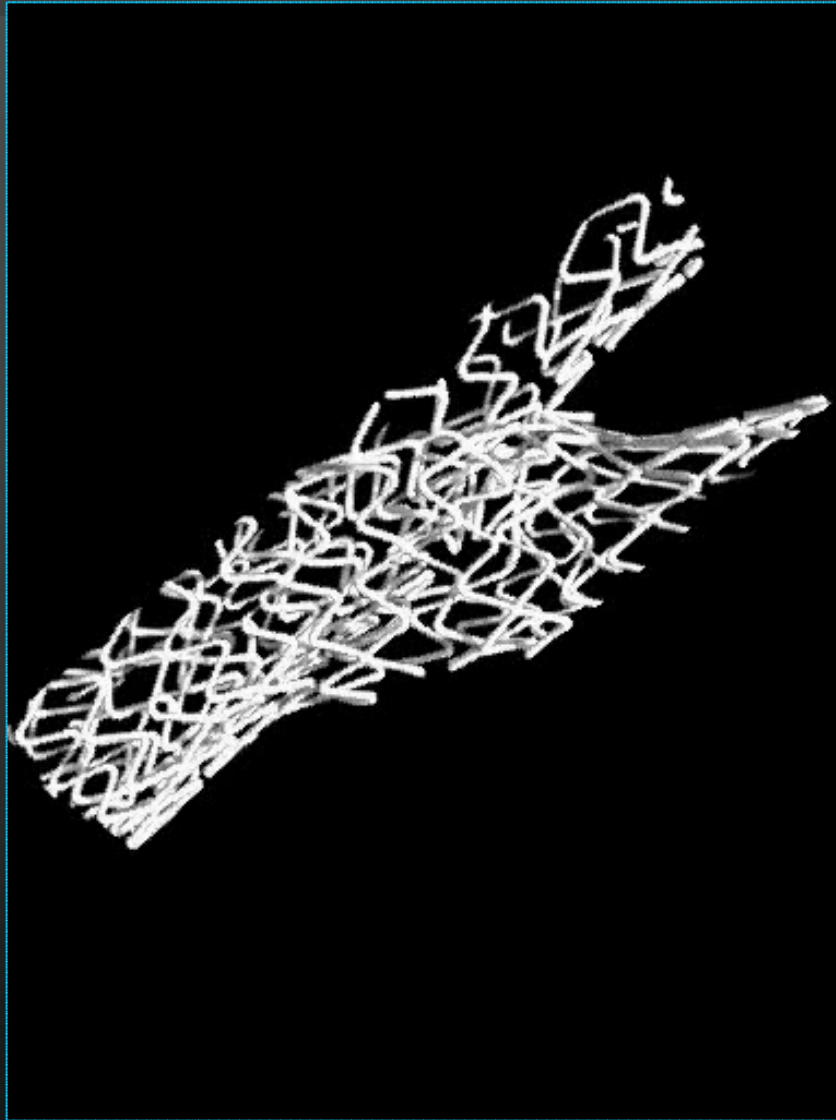


TAXUS × TAXUS

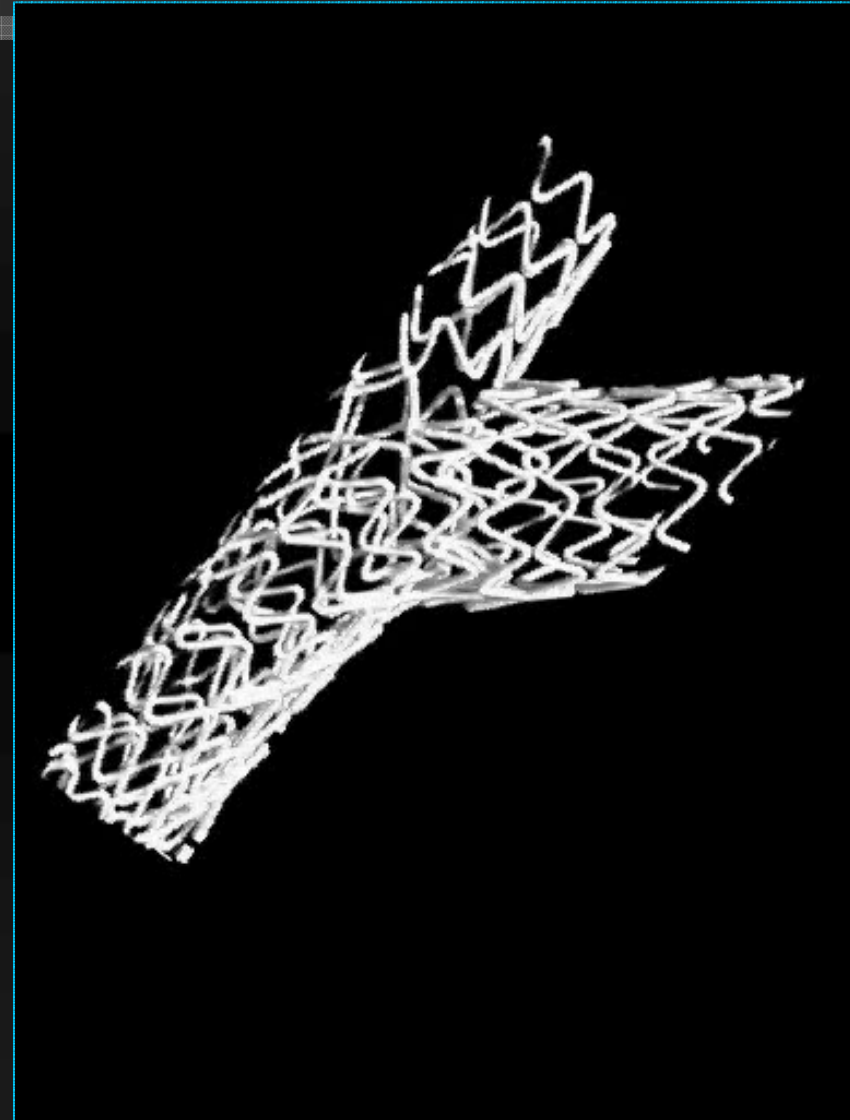


$$\frac{6}{16} = 37.5\%$$

SB ostium after KBT



16atm × 15sec



16atm × 60sec

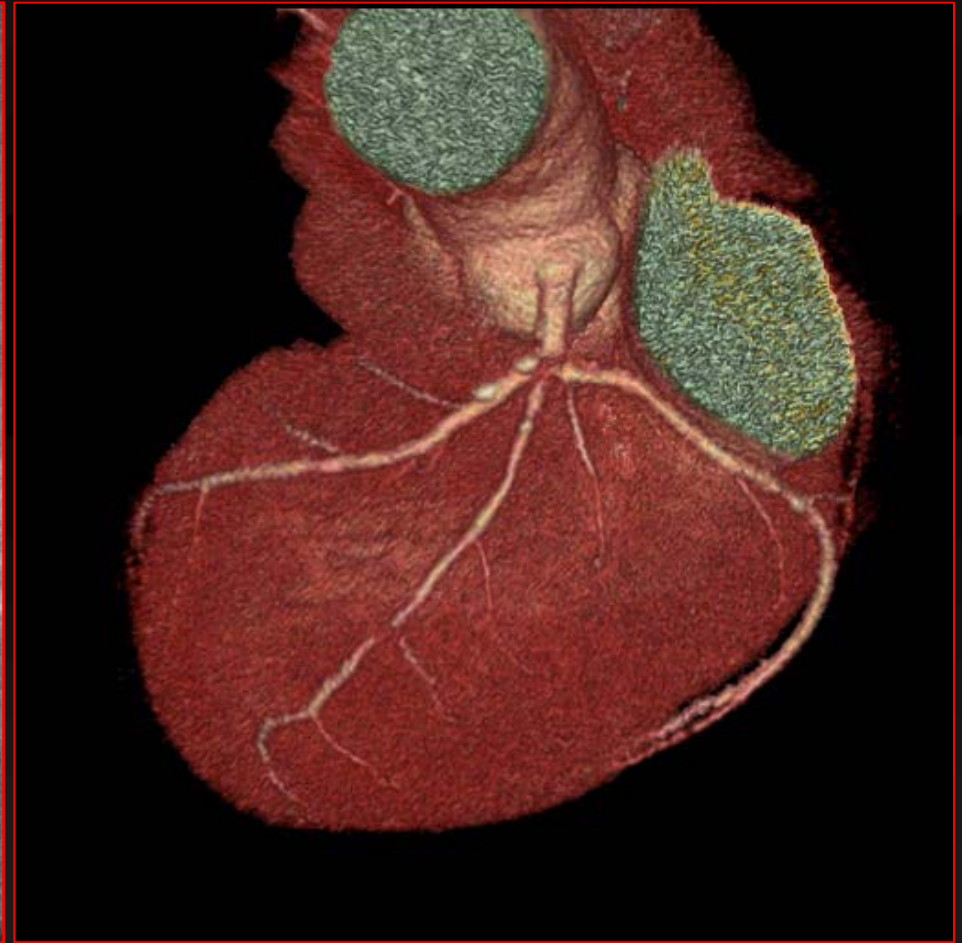
Conclusion 2

- The variations of deformation is less in "Mini Crush" technique than conventionally "Crush" technique.

Meaning it is safer.

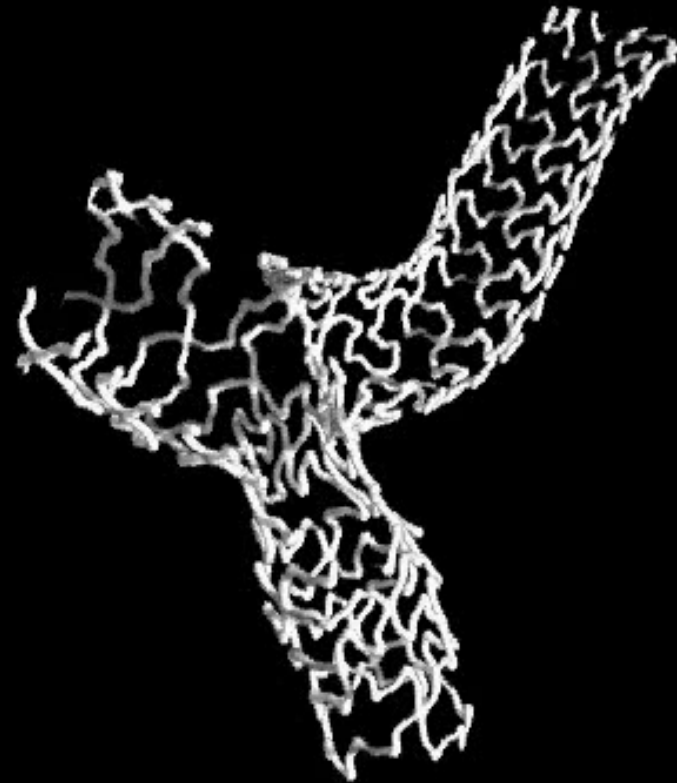
- The result changes not only by the pressure, but also by the dilating time.

large vessel diameter and bifurcation angle





NOBORI: Culotte



Liberte: Mini Crush

Final conclusion

- Its abilities and limitations of the stents, techniques, and performers could be found out from bench tests results.
- Standardization of detailed techniques will lead us to see positive long-term prognosis.
- Development of Dedicate Stent is important, but until then, studying on the lesion carefully and finding the best combination of stent and technique will give us good results.