

Single stent with KBA for bifurcation lesions

Kissing is always useful!

.....OR NOT

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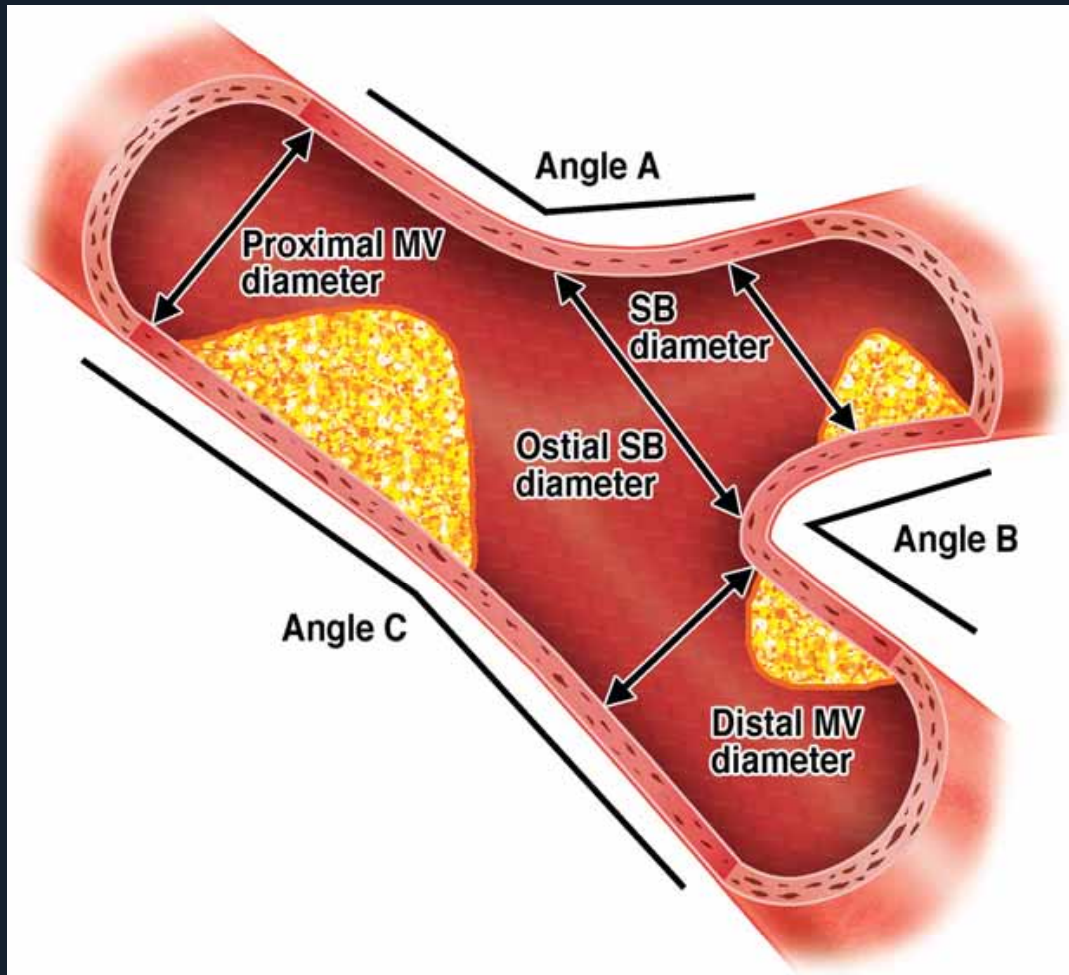
Disclosure Statement of Financial Interest

I, **SORIN BRENER MD**, DO NOT have a financial interest/arrangement or affiliation with one or more organizations that could be perceived as a real or apparent conflict of interest in the context of the subject of this presentation.

Bifurcation lesions

- **Plaques develop at low shear-stress points, along the lateral walls of MV and SB**
- **Account for 15-20% of PCI volume**
- **Associated with worse outcomes:**
 - **Longer procedures, more radiation**
 - **Higher rate of peri-procedural MI**
 - **Higher rate of TVR and ST**

Anatomy of bifurcation lesion

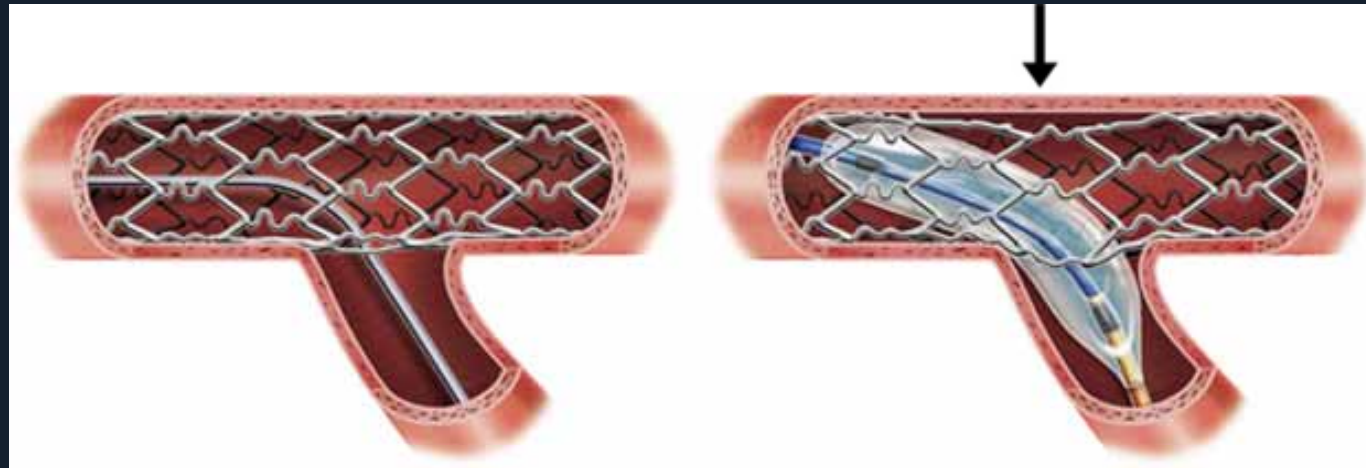


T – B angle $>70^\circ$
V – B angle $\leq 70^\circ$

Why KBA?

- **Worsening of SB ostium is common after MV stenting**
 - **Plaque shift**
 - **Carina shift**
 - **Refractory spasm**
 - **Dissection**

Deformation of MV stent



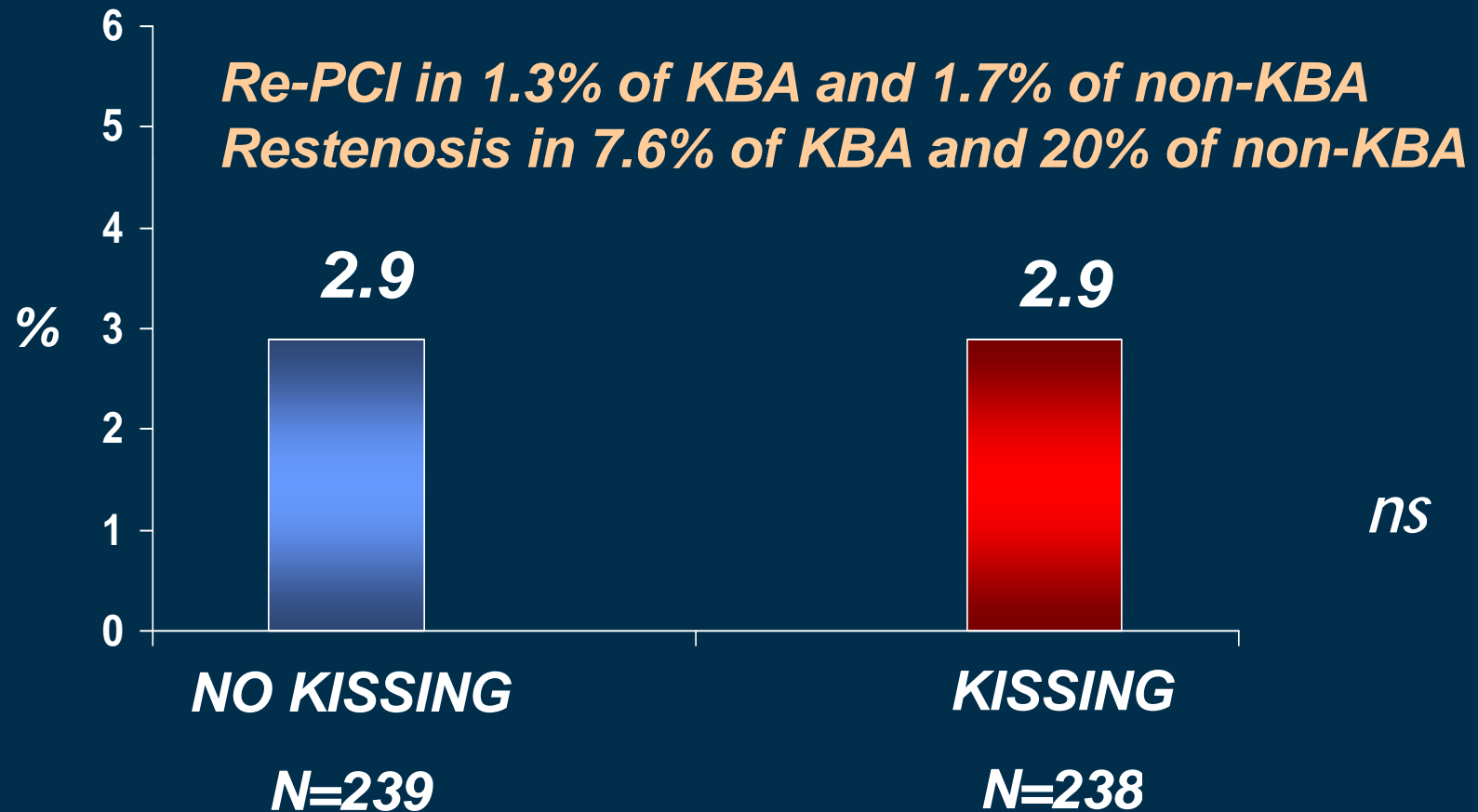
BBC One

- **500 patients randomized to 1- or 2-stent technique**
 - **29% KBA in 1-stent group**
 - **76% KBA in 2-stent group (mandatory) – less often successful after crush**
- **Higher rate of events in 2-stent group**
 - **MACE IH 2% vs. 8% P=0.002**
 - **9m TVF – 8% vs. 15.2% P=0.009**

NORDIC III

Primary end point

MACE (cardiac death, index lesion MI, TLR, stent thrombosis) after 6 months



COBIS Registry

- **2004-2006**
- **1065 patients treated with 1-stent technique**
 - **329 had KBA**
- **Propensity matching 2:1 in 222 KBA patients**
- **KBA had higher rates of events at 22 months (matched pairs):**
 - **MACE – HR 2.13, P=0.02**
 - **TLR – 2.84, P=0.02**

Functional assessment of KBA

- In 26 patients with $\text{FFR} < 0.75$ after MV stent, KBA improved FFR in 92% and gain was maintained at 6 months

Koo BK et al. EHJ 2008; 29:726

- In 60 patients with 1-stent technique, lack of KBA was sole predictor of inducible ischemia in follow-up

Burzotta F et al. CCI 2012; 79:351

- In NORDIC III, lack of KBA was strong predictor of $\text{FFR} < 0.75$ ($P=0.006$)

Kumsars I et al. EuroIntervention 2012; 7:1155

2-stent technique

- In 181 patients treated with crush technique, lack of KBA was predictor of TLR (HR=1.79, p=0.01)

Ge et al. JACC 2005; 46:613

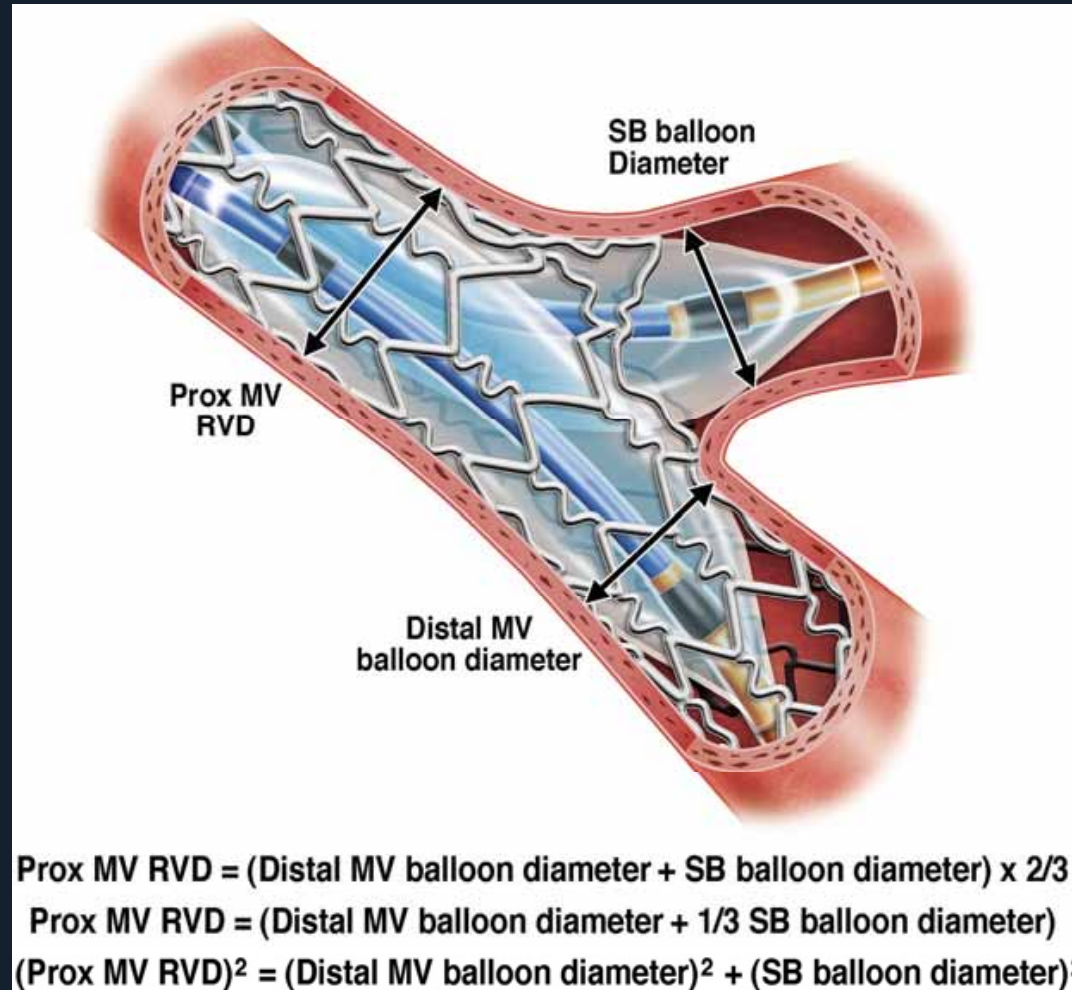
- In 231 patients treated with crush technique, final KBA resulted in larger MLD, sustained at follow-up

Hoye A et al. JACC 2006; 47:1949

- In 133 patients treated with crush technique, 74% had final KBA. They had higher MACE-free rate (P=0.009)

Dzavik V et al. Am Heart J 2006; 152:762

How to do KBA?



EBC recommendations

- **MV stent optimization – stent bows into side branch**
- **SB crossed via most distal strut possible (closest to carina)**
- **KBA with non-compliant balloons equal in size to daughter branches**

***KBA reduces restenosis in SB
15% to 8% for all
20% to 7% for true bifurcations***

Final thoughts

- KBA appears not to be indicated in most cases of 1-stent technique, but:
- We do not have long enough follow-up from NORDIC III
- There is a difference in angiographic restenosis favoring KBA
- There is a greater chance of optimal FFR in SB after KBA

*Probably a bad kiss is worse than no kiss at all,
but a god kiss is still nice*

Hildick-Smith D heart 2012; 98:175