

CLINICAL RESULTS AFTER BIFURCATION STENTING WITH THE MINI-CRUSH TECHNIQUE.

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ΕΛΛΗΝΙΚΟ ΙΝΣΤΙΤΟΥΤΟ ΚΑΡΔΙΑΓΓΕΙΑΚΩΝ ΝΟΣΗΜΑΤΩΝ

Background and Objectives

The best option on the treatment of coronary bifurcation lesions is a subject of considerable debate. However, recent evidence suggests that bifurcation lesions might be treated with implantation of drug-eluting stents on both branches using the Mini - Crush Technique with a low rate of major adverse cardiac event and restenosis.

We sought to evaluate the clinical outcome in patients with bifurcation lesions treated with this technique.



Methods

Clinical and angiographic data were analysed from 32 patients, who were treated percutaneously for bifurcation lesions with drug - eluting stent implantation using the mini-crush technique, between January 2008 and May 2010.

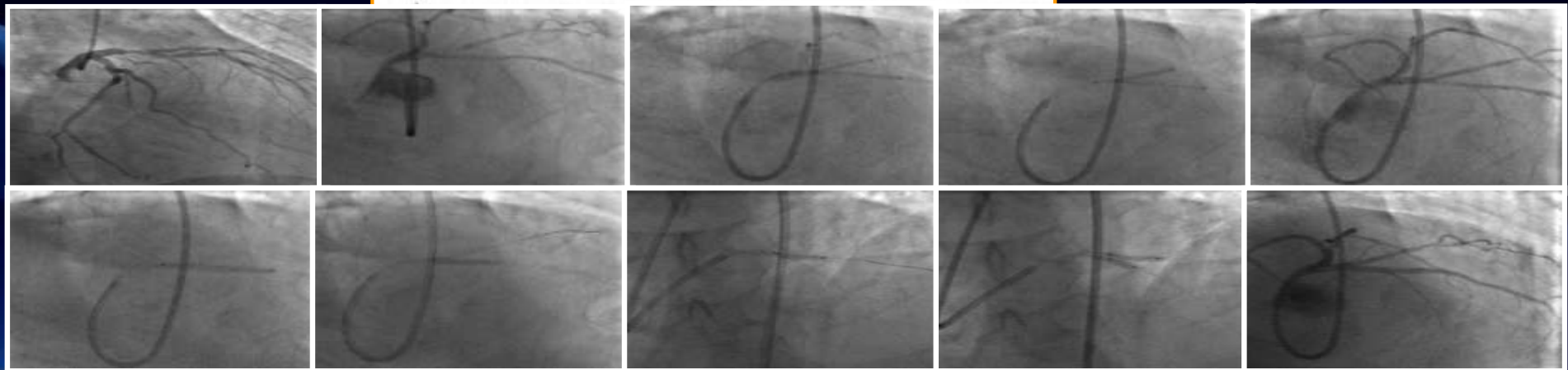
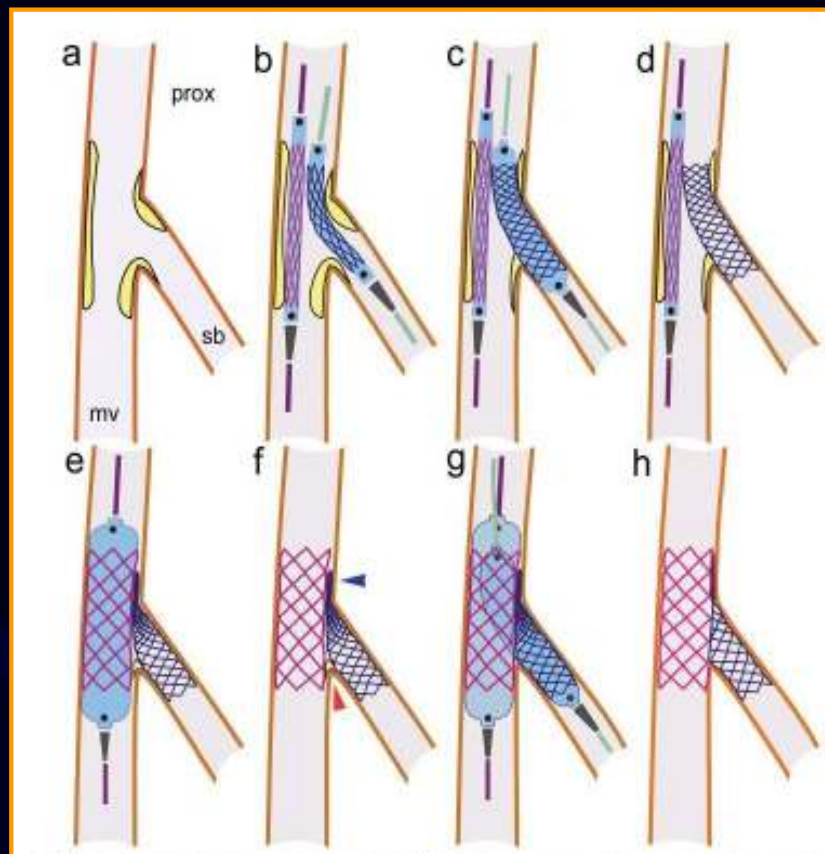
We recorded the occurrence of major adverse cardiac events (MACE), defined as death from all causes, myocardial infarction (MI), or target lesion revascularization (TLR).



Mini-Crush Technique

A stent is positioned in the side branch (SB) with 1 - 2 mm protruding into the main branch (MB) and another stent is positioned in the MB. The side-branch (SB) stent is deployed and if angiography shows no downstream dissection, the SB balloon and wire are removed. The MB stent is deployed, and as a result a minimal length of the SB stent is crushed. Two-step kissing involves first a high pressure post-dilation of the SB ostium with a noncompliant balloon 0.25 mm smaller in diameter than nominal SB diameter, and then the final kissing balloon post-dilation with simultaneous inflation of a SB and a MB balloon typically to about 8 to 10 atm, to correct any stent distortion. The balloon diameters for kissing post-dilation should be sized to each downstream branch vessel diameter.





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Results

Clinical Characteristics

| | |
|-----------------------|----------------------|
| Mean Age (years) | 63 (range: 44 to 77) |
| Men (%) | 72 |
| Diabetes Mellitus (%) | 18.7 |
| Hypertension (%) | 50 |
| Dyslipidemia (%) | 34.4 |
| Current smokers (%) | 25 |
| Previous CABG (%) | 12.5 |
| Previous PCI (%) | 15.6 |



Results

PCI Data

Main vessel

| | |
|---------------------------------------|-------------------------------------|
| Average number of stents \pm St Dev | 1.26 \pm 0.5 (range: 1-3) |
| Mean stented length (mm) | 28.2 \pm 14.6mm (range: 12-74mm) |
| Mean stent diameter (mm) | 2.9 \pm 0.4mm (range: 3.5-2.25mm) |

Side Branch

| | |
|---------------------------------------|-------------------------------------|
| Average number of stents \pm St Dev | 1.22 \pm 0.6 (range: 1-4) |
| Mean stented length (mm) | 22.9 \pm 16.1mm (range: 12-87mm) |
| Mean stent diameter (mm) | 2.4 \pm 0.2mm (range: 3.0-2.25mm) |

Final kissing balloon performed in 96.9% of the cases

1.4 \pm 0.6 vessels treated per patient



Results

During a clinical follow-up period of 15.3 ± 10.2 months (range: 5 - 33) there have been:

- ❖ no deaths or myocardial infarctions
- ❖ 1 patient required repeat percutaneous revascularisation for instent restenosis
- ❖ 1 patient had an ischaemic cerebrovascular accident



Conclusions

In this retrospective study, mini-crush bifurcation stenting was associated with low incidence of major adverse cardiac events at clinical follow-up.

