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Usefulness and safety of the "radial ultrasupport technique" to enhance guiding catheters support: a prospective randomised pilot study vs. anchoring technique

BAYSTRUKOV V.(1), KRETOV E.(1), PROKHORIKHIN A.(1)

(1) E.N. Meshalkin Siberian Federal Biomedical Research Center, Novosibirsk, Novosibirsk RUSSIAN FEDERATION

THEME: Coronary Interventions

TOPIC(S): CTO, Other Coronary Interventions

AIMS

The "Radial Ultra Support technique" is a new technique, it provides active support by deep pass of the coronary wire into the left ventricle and aorta. We aimed to assess its feasibility and safety in clinical practice versus anchoring technique.

METHODS AND RESULTS

Methods

The present study was a single-center, prospective, randomized study. Patients with stable angina and complex coronary stenosis included into the clinical trial.

After unsuccessful attempt at crossing the stenosis/occlusion either with a minimal size balloon (1.25–10mm) or with a stent if predilatation with non-compliant balloon was obtained, patients could be included in the study. Patients were randomized in two groups according to the support technique: "anchoring" technique, and "Radial Ultra Support" technique.

INTERVENTIONAL PROCEDURES

The right radial access and appropriate 6 Fr guiding catheters (Extra Back Up, Amplatz) were used systematically.

In the "Radial Ultra Support" technique a soft hydrophilic wire was smoothly advanced through the invisible small vessels at the distal parts of all major epicardial coronary arteries into the left ventricle. Often the wire goes through the left ventricle into the aorta arch. Thus the stiffest part of the wire becomes staying on all length of artery, straightening bends and giving a maximum support. Balloons and stents could then be delivered on the wire using the enhanced support.

STUDY ENDPOINTS AND DEFINITIONS

The primary endpoint was the procedural success rate, defined as successful implantation of the intended stent without the occurrence of in-hospital Major Adverse Cardiac Events.

Results

The demographic characteristics of the study population were well balanced between the two groups. Target lesions were highly complex and were all type C. A total of 86% of lesions were calcified. Mean lesion length was more than 30 mm in both groups. The number and diameter of stents, and the length of stenting segment per patient were similar in both groups. Contrast volume and procedure time were not different between groups.

The device success and procedural success rates were similar in both groups (96 vs. 93%; $p=1.0$ and 96 vs. 89%; $p=0.8$, respectively).

CONCLUSIONS

The use of the "Radial Ultra Support" technique resulted in an increased back-up support and guide catheter alignment for stent delivery in the presence of unfavorable tortuous coronary anatomies and in complex, heavy calcified lesions, which otherwise may have been either considered unsuitable for PCI or would have required additional expensive tools for successful implantation. The procedural success rate of "Radial Ultra Support" technique was high without major complications.

