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SAFETY AND FEASIBILITY OF SZABO TECHNIQUE IN PERCUTANEOUS CORONARY INTERVENTION OF OSTIAL LESIONS

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Yang Shengli. *Department of Cardiology, The General Hospital of Chinese People's Armed Police Forces*

Objectives Percutaneous coronary intervention (PCI) on ostial lesions in coronary arteries can pose unique challenges and

associated with higher procedural and medium-term complication rates. It has been technically difficult because it should be done with precise stent placement in ostium and absence of side branch compromise. The Szabo technique consists of side branch wiring through most proximal stent strut as well as main branch wiring through stent lumen. The side branch wire or anchor wire prevents stent advancement beyond ostial segment and makes possible the accurate stent implantation in ostium. The purpose of this study is to evaluate the safety, feasibility and success rate of Szabo technique by analysing technical, angiographic and IVUS (Intravascular Ultrasonography) findings.

Methods We retrospectively analysed 39 PCIs in 39 patients with a significant lesion at a coronary artery ostium which was treated percutaneously using Szabo technique in The General Hospital of Chinese People's Armed Police Forces' cath lab. The procedure was defined as technically successful if there was neither stent loss nor second guide wire pull back during stent advancement. A successful procedure from angiographic point of view was defined as a precise stent implantation at ostium without side branch compromise. We also defined successful procedure from IVUS point of view consisting of accurate stent placement in ostium without proximal protrusion and without any stent uncovered area.

Results A total of 39 patients with 28 (71.8%) males, 21 (53.8%) diabetes, 25 (64.1%) hypertension, 27 (69.2%) hypercholesterolemia and 11 (28.2%) smokers or former smokers were enrolled in this study. They aged from 43 to 79 years with a mean age of 65 ± 12 years. 6F and 7F guiding catheter were used in 35 (89.7%) and 4 (10.3%) patients separately. The access was radial in 31 (79.5%) and femoral in 8 (20.5%) patients. The culprit vessel was left anterior descending (LAD) in 26 (66.7%), right coronary artery (RCA) 5 (12.8%), circumflex-obtuse marginal (LCX-OM) 3 (7.7%), and posterior descending (PDA) 5 (12.8%). IVUS was performed through culprit vessel in 30 (76.9%) and was also done in side branch in 9 (23.1%) patients after stent implantation. The procedure was technically successful in 36 (92.3%) patients. All technically successful patients had angiographic success (100%). IVUS examination of culprit vessel showed accurate stent placement in ostium 29 (96.7%) and slight stent proximal protrusion in 1 (0.3%) patients.

Conclusions This study shows that Szabo technique is safe and feasible for PCI in ostial coronary artery lesions with a high angiographic success rate. There was a high percentage of cases with accurate position of stent in ostium confirmed by IVUS.