

NIRxcell™ Co-Cr Coronary Stent System By Medinol®

Dr. Alaide Chieffo, MD; Interventional Cardiology Unit, San Raffaele Scientific Hospital, Milan, Italy

Background:

This paper outlines the first in-patient implantation of the NIRxcell cobalt chromium bare metal stent system (Medinol). This challenging case involved a patient with flow-limiting lesions and extensive coronary aneurysms.

The new NIRxcell stent system offers very good scaffolding properties while conforming to the vessel's natural form and dynamic motion. In addition, the delivery system of NIRxcell includes an innovative metallic spring tip that was designed to enhance cross-ability by its superior flexibility and buckle resistance. Other stent delivery systems, typically having polymer distal tips, are prone to flare-out and buckling that may impact deliverability.

Case Report:

A 53-year-old male with prior history of coronary artery disease was treated at San Raffaele Hospital in Milan, Italy. His coronary angiography showed extensive coronary artery aneurysms in the LAD, focal lesion in the Ramus and tight lesions within an aneurysm in the proximal segment of a dominant first obtuse marginal (OM1) branch. The lesions in the OM1 were hard to reach due to three tight angulations from the left main to the OM1 and a tight lesion at the end of the third angulation (Figure 1, red dashed line).

A guidewire was placed in the OM1 and a second guidewire was placed in the circumflex (Figure 1). Direct stenting was performed with a 3.5/20mm NIRxcell stent system. The NIRxcell stent system easily traversed the three tight angulations and the tight lesion (Figure 2) and was deployed in the OM1 at a pressure of 12atm. Post dilation to 30atm with a balloon catheter was performed in order to obtain final angiographic result (Figure 3). The tight lesions were opened and the stent (green dashed line) conformed well to the vessel.

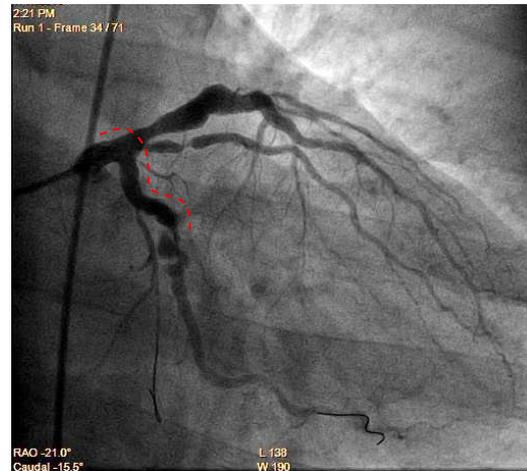


Figure 1

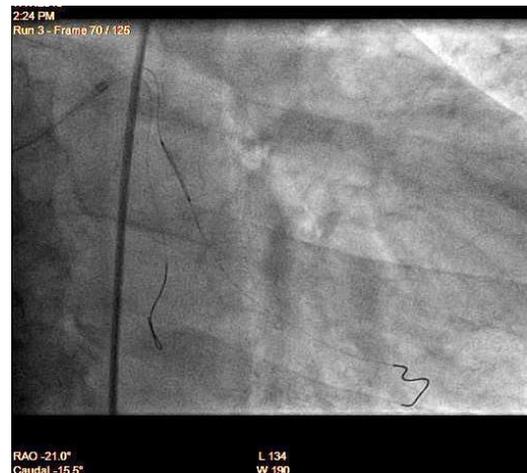


Figure 2

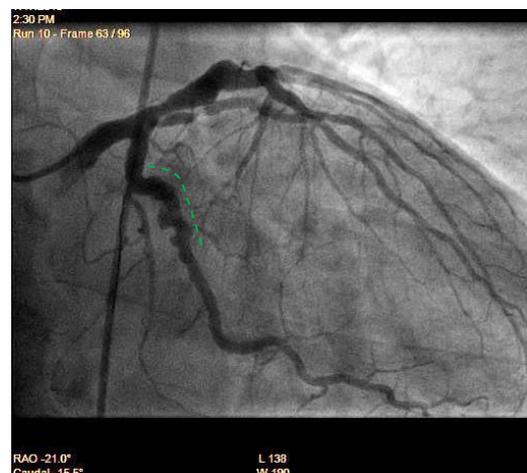


Figure 3

Discussion and Conclusion:

The procedure with the NIRxcell stent system (Medinol) was successful and the final angiographic result was satisfactory. The NIRxcell stent system with the metallic spring tip was highly deliverable; it easily traversed the tight "Z" shaped angulations and crossed the lesion. Moreover, the radiopaque metallic spring tip enabled me to visualize the precise location of the catheter tip during the insertion. Finally, a NIRxcell stent was implanted at the OM1 and blood flow was restored. The new concept and design of the NIRxcell spring tip seem promising and should be further tested following the success of this procedure.

Interestingly, exactly 18 years ago, the first NIR® stent was implanted at the Columbus Hospital in Milan by Dr. Antonio Colombo (Figure 4). The NIR stent was implanted in a patient with a shephard's hook that was impossible to cross at the time with the Palmaz-Schatz stent. NIRxcell is the newest generation in the NIR legacy of stents and highlights Medinol's twenty year commitment to interventional cardiology.

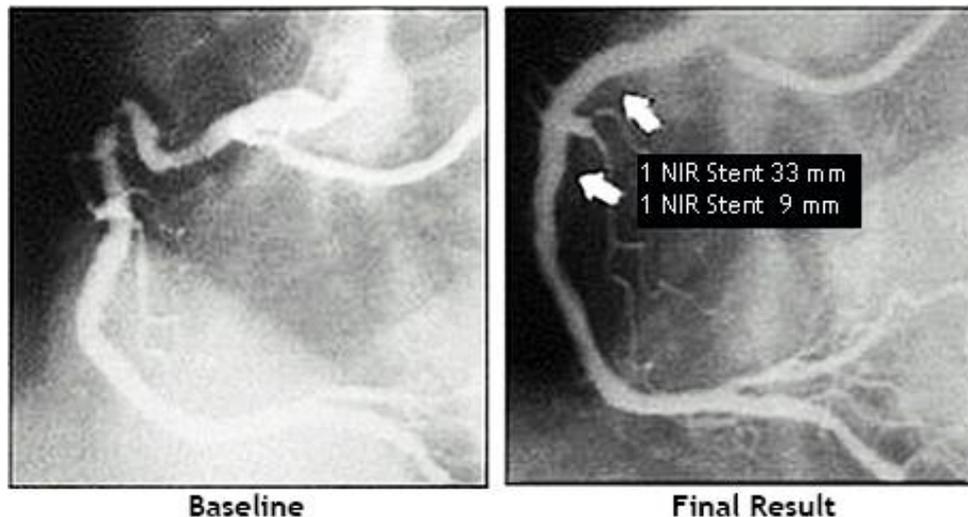


Figure 4

Disclosure of Commercial Conflict of Interest: Nothing to disclose