Clinical and Angiographic outcome of Self-expanding Nitinol Intracoronary Stent (Radius)

Eak Kyun Shin*, Tae Hoon Ahn, Min Soo Son, Ji Won Son, Kwang Kon Koh, In Suck Choil
Division of Cardiology, Heart Center, Gil Medical Center, Gachon Medical School, Inchon Korea

Background: self-expanding nitinol stent (Radius) has the property of a good radial force, flexibility and uniform expansion. However the efficacy or feasibility, and expansion characteristics of self-expanding nitinol stent should be still discussed.

Purpose of Study: To evaluate the feasibility and expanding characteristics of self-expanding nitinol stent for the treatment of coronary artery stenosis

Method: 57 Radius stent were implanted electively in 57 lesions in 56 patients. Inclusions are De novo lesion with angiographic RD ≥2.75mm. Stent size and length were chosen according to the visual or IVUS-guide assessment. Postdeployment dilatation was performed using a balloon that was equivalent or quarter size larger than the reference vessel, with 8-14 atm (9.7±1.8). Angiogram and IVUS were obtained immediately post stenting, at 1 week and 6 months.

Results: Procedural success was 55/56 (98.2%) of patients. One patient developed sudden cardiac arrest to death, probably from subacute thrombosis during hospitalization. Stent restenosis (>50% DS at FU) was observed in 25% of lesions, and IVUS data were shown in the table.

	Pre-	Post-stent	1 week	6 month
RD(mm)	3.25±0.44			
MLD(mm)	0.58±0.29	2.89±0.50	3.0±0.47	2.04±1.06*
DS(%)	81.06±9.90	7.78±8.14	3.63±9.53	37.3±30.69*
Min.stent area(mm^2)		6.01±1.59	6.88±1.54	7.98±1.92*
Stent volume(mm^3)		109.80±48.96	112.45±42.31	129.33±47.75

*$p<0.01$ versus post-stent

Conclusion: Self-expanding nitinol intracoronary stent for coronary artery stenosis was feasible and demonstrated to continuously enlarge more, even after a week, during FU period.