repeat-TRI by ultrasound biomicroscopy (UBM).

Methods A total of 1116 patients who underwent the transradial coronary procedures were enrolled. The patients depending on whether for the first time to accept transradial coronary procedure divided into first-TRI group and repeat-TRI group. The radial artery (RA) was examined by UBM before and 1 day after the procedure.

Results In first-TRI group, the mean RA diameter was 2.32 ± 0.53 and 1.93 ± 0.57 mm before procedure and 1 day after the procedure respectively ($P < 0.05$). In repeat-TRI group, the mean RA diameter was 2.37 ± 0.51 and 1.79 ± 0.54 mm before procedure and 1 day after the procedure, respectively ($P < 0.01$). The early radial injuries and intimal thickening were compared between first-TRI and repeat-TRI. The mean intima-media thickness of RA was 0.24 ± 0.13 mm and 0.59 ± 0.28 mm before procedure and 1 day after the procedure in first-TRI group. The mean intima-media thickness of RA was 0.29 ± 0.16 mm and 0.68 ± 0.32 mm before procedure and 1 day after the procedure in repeat-TRI group. The frequency of acute injury was significantly higher in repeat-TRI RAs ($P < 0.01$). Intimal dissection. Stenosis and Occlusion were all significantly greater in repeat-TRI RAs $P < 0.05$. Linear regression analysis revealed that a repeated TRI procedure and small diameter was the independent predictor of intimal thickening.

Conclusions RA early injuries were greater in repeat-TRI patients than in first-TRI patients. We first use high-resolution UBM imaging to demonstrate the rate of radial injury and revealed that a repeated TRI procedure and small diameter was the independent predictor of intimal thickening.

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ASSESSMENT OF EARLY RADIAL INJURY AFTER TRANSRADIAL CORONARY INTERVENTION BY HIGH-RESOLUTION ULTRASOUND BIOMICROSCOPY

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Hua Shen, Yuyang Liu, Jie Du, Xiaoli Liu, Zhijian Wang, Shiwei Yang, Dean Jia, Hongya Han, Fei Gao, Yujie Zhou. *Beijing Anzhen Hospital affiliated Capital Medical University*

Objectives The radial artery has become an alternative vascular access site for percutaneous coronary procedures. Transradial coronary intervention (TRI) introduces injury to the radial artery (RA) which will affect repeat transradial coronary procedure. We sought to compare the early radial injury after TRI between first-TRI and