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APPLICATION OF INTRAVASCULAR ULTRASOUND IN DIAGNOSIS AND THERAPY OF PERIPHERAL ARTERY STENOSISHong Yukun, Chi Luxiang *Southwest Hospital, Third Military Medical University, Chongqing, China*

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Objective To evaluate the merits of intravascular ultrasound (IVUS) in the diagnosis and therapy (vascular Interventions) of peripheral artery stenosis.

Methods 94 inpatients of department of cardiology of Southwest hospital from October 2006 to September 2010 who were diagnosed with peripheral artery stenosis were involved in the study. There were 58 males and 36 females, aged 26 to 77 (58.4 ± 18.3) years. The patients were divided into DSA (digital subtraction angiography, DSA) group (43 patients) and DSA+IVUS group (51 patients), DSA was used in DSA group, DSA and IVUS were both used in DSA+IVUS group, and the outcome of two techniques were compared. Stenting was implemented under the guidance by DSA and IVUS respectively, and the effect of stenting was observed. Ultrasonic examination and CTA were used in follow up after stenting, DSA and IVUS were used when necessary.

Results In DSA+IVUS group, 77 vascular stenoses were found by DSA, there were 42 eccentric stenoses and 22 concentric stenoses in them; 82 vascular stenoses were found by IVUS, there were 63 eccentric plaques and 19 concentric plaques in them. The diameter stenosis rate measured by IVUS ($67.1 \pm 12.2\%$) was significantly higher than that measured by DSA ($54.5 \pm 11.4\%$), ($p < 0.05$). The area stenosis rate measured by IVUS ($89.3 \pm 12.3\%$) was significant higher than that measured by DSA ($77.1 \pm 13.1\%$), ($p < 0.05$). Eighty two vascular lesions in DSA+IVUS group were treated by stenting, 53 vascular lesions in DSA group were treated by stenting, all of them were successfully accomplished. After 3 to 48 months' follow-up, the restenosis rate of DSA group 15.1% (8/53) was significantly higher than the restenosis rate of DSA+IVUS group 3.7% (3/82) ($p < 0.05$).

Conclusions Compared with DSA, IVUS can accurately identify the lesion characteristics and the severity of stenosis, it is more effective in guiding and evaluating stenting.