

Stent boost versus intravascular ultrasound to determine stent expansion

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Aims: Comparison between stent diameters measured by intra-vascular ultrasound (IVUS) as a gold standard and stent boost (SB).

Background: IVUS is the gold standard method to detect stent expansion when compared to quantitative coronary angiography (QCA). SB is fluoroscopic-based assessment of stent expansion, which does not require insertion of additional device into a coronary artery does not add appreciably to procedure time.

Methods: We analyzed 13 coronary stents implanted in 10 patients using QCA, IVUS, and stent boost. Correlation of stent diameter measured by the different modalities was done.

Results: Measurement of minimum stent diameter by SB has a better correlation with IVUS ($r = 0.93$; $P = 0.0001$) when compared with QCA and IVUS ($r = 0.78$; $P = 0.003$). The difference between IVUS and SB minimum stent diameter = 0.18 ± 0.15 or $8.6 \pm 8.8\%$.

Conclusion: Both SB, and QCA measurements of minimum stent diameter correlated with IVUS. SB demonstrated an almost perfect direct correlation with IVUS. Though IVUS is the gold standard for evaluation of stent expansion, SB may be a good alternative in the future.

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Safety and feasibility of transradial balloon angioplasty of brachio-axillary hemodialysis access grafts

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Background: Percutaneous balloon angioplasty (PTA) of dysfunctional brachio-axillary hemodialysis grafts (BAHG) is routinely approached by brachial artery or graft puncture; both have limitations and potential complications. We report, a previously unreported, experience of routine transradial approach (TRA) for PTA of BAHG.

Materials and methods: We prospectively enrolled 36 consecutive patients with dysfunctional BAHG from January 2003 to January 2007. Technical (<50% residual stenosis) and clinical (at least one full hemodialysis session) success was reported. Included are all procedures, whenever TRA was attempted, as intention-to-treat analysis.

Results: Technical and clinical success was 85.7% and 88.9%, respectively. The radial artery was successfully accessed in 98.4% of procedures. A 77.8% of grafts were totally occluded, and 9.5% had no stump. One patient had PTA for concomitant central vein stenosis. The primary patency rate at 3, 6, 9 and 12 months was 76% (38/50), 56% (28/50), 35.42% (17/48) and 31.91% (15/

47), respectively. Primary assisted patency at 3, 6, 9 and 12 months was 88% (44/50), 84% (42/50), 83.33% (40/48) and 80.85% (38/47), respectively. One patient had transradial PTA for a concomitant central vein stenosis. Complications included extravasations, radial artery dissection and venous rupture each in one (1.6%) procedure, and residual dissection in 2 procedures (3.28%). No patients had distal embolization, hand ischemia or symptomatic pulmonary embolism.

Conclusion: Transradial PTA of BAHG is feasible with high success. It provides a safer alternative to other approaches.

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Routinely transradial arterial approach for extra-cranial carotid stenting

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Background: The purpose of this study is to report a single center experience with its safety and feasibility of transradial arterial (TRA) approach in extra-cranial carotid artery (ECCA) stenting.

Methods and results: 74 patients were consecutively enrolled in this study. A retrograde-engagement technique, involving looping 6-F Kimny guiding catheter, was utilized for ECCA angiographic study. For ECCA stenting, the 6-F Kimny guiding catheter was replaced with a 7-F Kimny guiding catheter and the procedure was performed as the follows. First, a 0.035-in. Teflon wire was carefully advanced into the common CA. Second, a PercuSurge GuardWire was inserted into the external CA, followed by distal balloon inflation for an anchoring support. Third, the 6-F guiding catheter was removed, followed by exchanging a 7-F kimny guiding catheter which was advanced along the 0.035-in. Teflon wire and the PercuSurge GuardWire to proximal part of common CA. Distal protection device was then utilized to protect from distal embolization during the procedure. One procedure failed due to external CA did not provide an anchoring support. Thus, the procedure was successful in 74 (98.7%) patients. No vascular or bleeding complication was observed. Minor stroke occurred in 3 (4.0%) patients during the procedure. All of them were completely recovery within 1 week.

Conclusions: The TRA approach for ECCA stenting is safe and feasible. This access may offer a last resort for patients with unsuited to femoral arterial access and endarterectomy.

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Single transradial catheter for right and left coronary diagnosis and intervention

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