

# Long-Term Outcomes and Predictors of Iliac Angioplasty with Selective Stenting: Is Routine Primary Stenting Necessary for Iliac Angioplasty?

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## Purpose

The purpose was to evaluate an up to 11-year experience of our treatment strategy, primary iliac angioplasty with selective stent placement in patients with iliac artery occlusive disease.

## Methods

From August 1993 to November 2004, 151 iliac lesions (149 stenoses, 2 occlusions) in 104 patients with chronic limb ischemia (disabling claudication in 76 [50%], rest pain in 38 [25%], ulcer/gangrene in 37 [25%]) were treated by PTA. Forty-six limbs (30%) were treated with concomitant infrainguinal endovascular (36 [78%]) or open procedures (10 [22%]). Thirty-four limbs (23%) had one or more stents placed for primary PTA failure including residual stenosis (> 30%), pressure gradient (> 5 mm Hg) or dissection (stent group), whereas 117 limbs (77%) underwent PTA alone (PTA group). The affected arteries treated were 28 (19%) common iliac, 31 (20%) external iliac, and 92 (61%) both arteries. According to TransAtlantic Inter-Society Consensus (TASC) classification, 39 limbs (26%) were in type A, 71 (47%) in type B, 36 (24%) in type C, and 5 (3%) in type D. Reporting standards of the Society for Vascular Surgery and the International Society for Cardiovascular Surgery were followed.

## Results

There were no perioperative deaths. Total complication rate was 0.7% (one groin hematoma). The mean follow-up was 21 months (median 10, range 1 to 94 months). Only 8% (9 of 117) in the PTA group had subsequent stent placement for recurrent stenosis. The iliac lesions were more severe and extensive in the stent group than those in the PTA group according to TASC classification (Mann-Whitney U test [M-W],  $p < .0001$ ) and anatomical location (M-W,  $p = .0019$ ). The technical success rate was 99% and the initial clinical success rate was 99%. Overall, the cumulative primary patency rates at 1, 3, and 5 years were 76%, 59%, and 49% (Kaplan-Meier [K-M]). The cumulative assisted primary and secondary patency rates at 7 years were 98% and 99%, respectively (K-M). The continued clinical improvement rates at 1, 3, and 5 years were 81%, 67%, and 53% (K-M). The limb salvage rates at 7 years were 93% (K-M). Of 15 predictor variables studied in 151 iliac lesions, the significant independent predictors for adverse outcomes were smoking history ( $p = .0074$ ), TASC type C/type D lesions ( $p = .0001$ ), and stenotic ipsilateral superficial femoral artery (SFA) ( $p = .0002$ ) for the primary patency rates; chronic renal failure with hemodialysis ( $p = .014$ ), ulcer/gangrene as an indication for PTA ( $p < .0001$ ), and stenotic ipsilateral SFA ( $p = .034$ ) for the continued clinical improvement (K-M, log-rank test and Cox regression model).

## Conclusions

Although the primary patency rates were not high, the assisted primary and secondary patency rates were excellent without systemic stenting. Careful follow-up can prevent iliac occlusion after angioplasty and selective stenting. Overall, more than 70% of iliac lesions were treated successfully with PTA alone. Our data suggests that routine primary stenting is not necessary for iliac artery occlusive disease.