

## Documents

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### Aortic Coarctation Stenting in Adolescents and Adults: A Single-Center Experience

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#### Abstract

Purpose/background: The aim of this study was to evaluate the short and midterm results of aortic coarctation (AoCo) stenting in an adolescent and adult population. Methods: All patients with a AoCo older than 14 years treated by stent placement between December 2000 and November 2016 were included in this study. Twenty-eight patients with an invasive peak systolic pressure gradient >20 mmHg were identified. Number of redilations, non-invasive systolic blood pressure, peak systolic pressure gradient, antihypertensive medication intake, claudication status and complications were evaluated. Results: Twenty-two covered and 6 uncovered stents were successfully placed. Peak systolic pressure gradient decreased immediately after stenting from a mean of 32 mmHg to 0 mmHg ( $\pm 7$  mmHg). Mean AoCo diameter increased from 8 to 16 mm ( $\pm 4$  mm). Peripheral arterial injury was seen in 2 patients (7.1%). The mean follow-up time was 60  $\pm$  49 months. Redilation of the stent was required in 4 patients, 2 to accommodate for growth and 2 for restenosis. Six (35%) patients could stop all antihypertensive medication. All claudicants (6/28) became and remained asymptomatic after surgery and during their follow-up. No aneurysms, stent fractures or dissections were noticed. There were 2 stent migrations during the first procedure with only 1 needing additional stent placement. Conclusion: Aortic coarctation stenting is a safe and effective treatment that significantly reduces the peak systolic pressure gradient. Antihypertensive medication can be reduced, and increase of walking distance in claudicants can be obtained. Younger patients may need more frequent reinterventions to accommodate for growth. © The Author(s) 2023.

#### Author Keywords

aorta; coarctation; congenital; stenting

#### Index Keywords

antihypertensive agent, antihypertensive agent; adolescent, adult, adverse device effect, aneurysm, angiography, aortic coarctation, aortic dissection, artery occlusion, Article, blood pressure, claudication, computer assisted tomography, controlled study, digital subtraction angiography, echocardiography, female, follow up, hematoma, human, male, peak systolic pressure gradient, peripheral arterial disease, postoperative complication, restenosis, retrospective study, stent fracture, stent migration, transthoracic echocardiography, walking distance, aortic coarctation, diagnostic imaging, time factor, treatment outcome; Adolescent, Adult, Antihypertensive Agents, Aortic Coarctation, Humans, Stents, Time Factors, Treatment Outcome

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