

Endovascular Treatment of Aortic Coarctation: Early and Mid-term Results

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Objective: To evaluate early and mid-term outcome of endovascular stent treatment of aortic coarctation in children and adolescents

Patients and Methods: Twenty-five patients with aortic coarctation who underwent stent implantation between 2008-2015 were retrospectively evaluated (18 male, 7 female). Mean age was 13 ± 3.8 years (5-21), and weight was 46.6 ± 16.2 kg (20-73). Eight patients had (32%) native, 17 had (68%) residual or recoarctation. Covered stents were implanted in 17 and bare in 8 patients. Computed tomography was made in 3-6 months.

Results: Catheter-measured gradient before and after the procedure were 36 ± 16.3 (15-83) and 7.0 ± 6.9 (0-25) mmHg, respectively. Early complications were observed in four patients: stent migration, pseudoaneurysm next to femoral artery, arteriovenous fistula and femoral artery injury requiring surgical intervention in one patient each. Mean follow-up time was 15.3 ± 14 months. Computed tomography showed no problems. Cardiac catheterization and angiography was performed in 9 patients. Stent fracture was detected in one patient after balloon dilatation of the stent. Two patients were shown to have aneurysms at the border of the covered stents. One underwent surgery for proximal residual coarctation and aneurysm repair, the other underwent second covered stent implantation. Four patients required balloon dilatation of their stent.

Conclusion: Stent implantation is an effective treatment for native and recurrent aortic coarctation in children and adolescents. Early and late complications may occur thus cautious follow-up is necessary.