An immediate imperfect result of balloon dilatation for aortic coarctation in infants and young children engenders an adequate late result.

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Objective: To study the early and late effects of balloon angioplasty (BA) of aortic coarctation and recoarctation in infants. Background: BA, although considered inferior to stent implantation concerning the long term outcome is still the technique of choice to treat aortic coarctation in young children.

Methods: 50 consecutive infants with native aortic coarctation or recoarctation, underwent BA. Patients were divided into two groups according with an immediate residual pressure gradient <15 mmHg (group A) or >15 mmHg (group B) after BA.

Results: Peak to peak gradient diminished from 32.9±13.2 to 17.0±10.5 mmHg (p<0.0001), but the majority of patient (n=31, 62%) pertained to group B. In this group there were 1 procedural death and 6 early reinterventions. Thus 43 patients were immediately treated with BA only. At a median follow-up of 4.5 years (range 1-10) 2 patients of group A and 9 of group B needed a further BA or surgery (p=0.69). Cox analysis showed that a residual gradient >15 mm Hg was the only predictor of reintervention. The event-free survival at 10 years in patients of group A and B was 87% and 55%, respectively (p=0.014). At log rank test group B had a risk of undergo a second angioplasty or surgery 5-times higher compared with group A patients.

Despite these expected results, we observed that in 58% of group B patients treated with BA only no reintervention was necessary on account of the normalization of aortic flow and systemic blood pressure.

Conclusions: BA for aortic coarctation in infants offers suboptimal early results in 62% of patients. Although the immediate residual pressure gradient is the only predictor of reintervention in 47% of children with an immediate imperfect result the aortic obstruction disappears and no further interventions are necessary.