

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

*Corleto A.(1) , Agnoletti G.(1), Bordese R. (1), Marini D.(1), Gabbarini F.(1), Parrinello G.(2)
Department of Paediatric Cardiology, O.I.R.M. – S. Anna Hospital, Turin, Italy (1) and Section of
Medical Statistics, University of Brescia, Italy(2)*

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.