End to Side repair for Neonatal Aortic Coarctation: Long and Mid Term Result

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Background

Many surgical techniques to fix a coarctation of the aorta incorporate abnormal tissue in the final repair with a significant incidence of recurrent obstruction requiring intervention. By connecting the descending aorta to the proximal aortic arch (end-to-side aortic anastomosis) we eliminate the isthmus and hypoplastic distal arch tissue from the anastomotic site. We retrospectively analyzed our experience in repair of aortic coarctation by using end to side aortic anastomosis technique in respect to the re-coarctation complication.

Methods

From January 1999 to August 2008, 118 patients underwent end to side anastomosis repair of aortic coarctation, via left thoractomy approach. Mean age was 28±34 days (1-217 days), with 86 patients (73%) in the neonate period (<30 days). Mean weight was 3.3±0.9 kg (2-7 kg), with 86% less then 4.0 kg. In 69 patients there were other cardiac anomalies, and 18 patients underwent concomitant cardiac procedure at the time of aortic coarctation repair. Late follow-up was completed in 113 patients (96%).

Results

There was no operative mortality, nor immediate complications related to the repair technique (Major bleeding, Re-open, vocal cord paralysis, distal organ ischemia etc.). Mean follow up was 18±23 month (3-110 month). None of the patients needed re-intervention for recurrent aortic coarctation, none of them had a peak gradient over 20 mmHg by Echo-Doppler. At follow up mean systolic pressure gradient across the repair site was 4.7±10.1 mmHg.

Conclusions

End to side anastomosis for aortic coarctation, provide excellent short and mid term results, for neonatal coarctation in respect to coarctation recurrence.