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Anomalous Origin of One Pulmonary Artery Branch from the Aorta. Postoperative Outcome and Surgical Techniques

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Objectives:

The aim was to review our experience with the surgical repair of the anomalous origin of one pulmonary branch from the aorta(AOPA).

Materials and Method:

Between january 1991 and march 2001, 8 patients with AOPA underwent surgical correction. Three patients presented isolated AOPA. Five patients presented AORPA and 3 AOLPA. Implantation of the anomalous PA to the main PA trunk was performed by: I)direct anatomosis in 2 patients with AOLPA; II)interposition of a synthetic graft in one patient with AOLPA; III)employing an autologous pericardial patch in 2 patients with AORPA; IV)using an aortic flap in 3 patients with AORPA. The mean follow-up time was 37.7 months.

Results:

One patient died postoperatively due to progressive heart failue unresponsive to inotropic support. Early postoperative pulmonary hypertension crisis was identified in another patient. Within 2 years after surgery, the residual gradient across the anastomotic site was significantly lower in patients undergoing correction employing adjunctive autoplogous tissues, 9.5±4.6mmHg versus 21±7.2mmHg(p=0.045). in patients undergoing direct anastomosis or interpositioning of a synthetic graft. Similarly, the Tc-99m scintigraphy demonstrated a significantly lower lung perfusion in patients undergoing AOPA implantation without employing autologous tissues for increasing the AOPA length 57±5.6(%) versus 72±4.5(%)(p=0.011).

Conclusion:

The AOPA from the aorta is a rare but important entity, necessitating a scrupulous preoperative and intraoperative evaluation. The techniques employing autologous tissues for enlarging and lengthening the AOPA seem to be associated with better results in terms of postoperative restenosis.