Case of the Week

A RARE INTERVENTION PERFORMED TO RESCUE A CYANOTIC NEONATE

A 4-week-old baby was referred from Mauritius with critical congenital heart disease on medicine to keep patent ductus arteriosus (PDA) open. The baby had experienced cyanosis after birth. After presenting at the Apollo Hospitals, Navi Mumbai, she had mild respiratory distress and was kept in NICU with prostin drip.

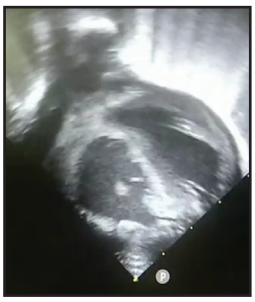
Accordingly, all relevant investigations were done and blood parameters were normal. ECG revealed irregularly irregular heartbeats. 2D ECHO showed thick hypertrophied right ventricle with severe tricuspid regurgitation (TR), large PDA (5MM) to left pulmonary artery (LPA), and valvar pulmonary atresia and right ventricular (RV) diastolic dysfunction.

Given the above findings, the patient was taken for emergency pulmonary valvotomy (procedure performed to open up valve). The patient had episode of ventricular fibrillation with cardiac arrest before the procedure which was reverted by electrical cardioversion, inj. Lidocaine, temporary pacemaker, and other supportive treatment. The procedure was abandoned and the baby shifted to NICU for stabilization. She had acute renal failure due to low cardiac output, but recovered in a week's time. During this time, CNS status was also ascertained to be normal by a paediatric neurologist. She was retaken in cath lab after 10 days of stabilization. Thereafter, angiography was performed which revealed pulmonary valve atresia with the intact ventricular septum (a rare and critical congenital heart defect).

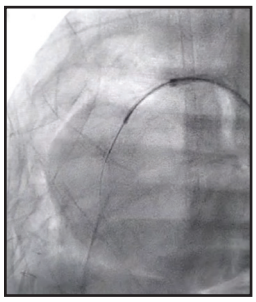
Subsequently, pulmonary valve perforation was done in the cath lab. Ventilation was continued and she was started on milrinone infusion at 0.1 mics/kg/min, which was tapered off over 2 days as the patient's condition became hemodynamically stable.

The valve perforation and balloon dilatation was done successfully without any complications. The ventricle showed normal functioning with good flow across the pulmonary valve and moderate pulmonary regurgitation. The PDA closed completely in the next two to three days. The baby showed normal neurological status and was discharged in good health.

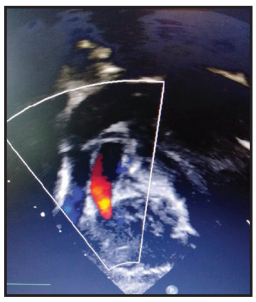
Conclusion: This is a rare and complex case of 4-week-old baby diagnosed with pulmonary valvar atresia/intact septum with well-developed RV who withstood cardiac arrest, successfully revived, and corrective procedure done in cath lab with gratifying results. This case highlights the challenges faced by the paediatric cardiology team to optimize the management of critical cyanotic neonate and achieve an ideal outcome with intervention alone.



2D ECHO - Preoperative



Pulmonary Valve Perforation



2D ECHO Post-operative

SURGERY AT APOLLO HOSPITALS IS SAFE

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