MECHANICAL PERFORATION OF ATRETIC PULMONARY VALVE AS AN ALTERNATIVE PALLIATION FOR PULMONARY ATRESIA WITH INTACT VENTRICULAR SEPTUM

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Background:

Perforation of the pulmonary valve with radiofrequency and balloon dilation is known as the standard procedure for palliation in patients with pulmonary atresia with an intact ventricular septum (PA-IVS). That procedure offers the physiological pathway for maintaining adequate pulmonary blood flow and reducing cyanosis. As radiofrequency equipment is not readily available in many centers, mechanical techniques using conventional guide wires are preferable, especially in developing countries.

Objectives:

We aim to describe the initial interventional experience in the palliative procedure of pulmonary valve perforation in patients with PA-IVS in limited resources.

Methods:

We report 5 consecutive patients in whom we used the coronary wire for perforation of the atretic pulmonary valve and subsequent balloon dilatation.

Results:

Pulmonary atretic valve perforation and ballooning dilatation was performed in 5 patients with PA-IVS, 3 patients in neonates, and 2 patients in older children. The mean oxygen saturation was improved from 64% to 87% after the procedure. There was no complication during and after the procedure. Among 5 patients, 2 patients receive re-ballooning pulmonary valvulotomy, 1 patient underwent palliation surgery and 2 patients are still waiting for further palliation procedures.

Conclusion:

Mechanical perforation of the pulmonary atretic valve by coronary wire and subsequent balloon dilation is a safe and effective intervention for children with PA-IVS as the initial palliative procedure to reduce cyanosis.