

Percutaneous stent implantation in right ventricle outflow tract obstruction – single centre experience.

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INTRODUCTION:

In patients with critical right ventricle outflow tract obstruction (RVOTO) and hypoplastic pulmonary arteries stent implantation can be an alternative to palliative surgical intervention, especially when anatomical conditions restrict surgical treatment. The aim of this study is to present our experience in interventional cardiology procedures for right ventricle outflow tract obstruction.

METHODS:

We performed percutaneous interventions in a group of 5 patients with critical RVOTO aged 7 days to 118 months. 3 of them were diagnosed with ToF + MAPCA'S + hypoplastic pulmonary arteries, 1 with DORV + VSD + PS and 1 with DORV + VSD + ATR. AP + MAPCA'S. 3 patients were referred to us for primary intervention, the remaining 2 received previous surgical treatment (Blalock-Tausig shunt, opening and reconstruction of RVOT). We performed 13 cardiac catheterizations with 8 stent implantations and 10 balloon angioplasties. In 3 patients we attempted balloon dilatation of RVOTO and MPA prior to stent implantation. 3 patients required implantation of additional stent later on, with further 7 angioplasties to redilate previously implanted stent(s) or to relief stenosis due to overgrowth within or proximal to stent(s).

RESULTS:

We implanted successfully 4 stents as a first step treatment. In 1 patient stent embolized to the right ventricle immediately after balloon withdrawal and had to be removed surgically. 1 patient underwent successful stent implantation with concomitant balloon dilatation and awaits next step treatment under ambulatory care. In remaining 3 patients Mc Goon ratio increased from 1,28 (range 0,78 to 1,5) to 1,37 (1,28 to 1,5) so as Nakata index from 65,3 mm²/m² (27,7 to 81,4) to 86,7 mm²/m² (84,9 to 94,5).

CONCLUSIONS:

In presented small group of patients with critical RVOTO percutaneous interventions allowed for reconstruction of right ventricle outflow tract. However despite increase in McGoan ratio and Nakata index patients still remain poor candidates for total surgical correction.