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Cardiac catheterization in infants < 2500 grams

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Introduction

Low birth weight infants are born with a weight <2500 grams. Very low birth weight infants weigh <1500 grams and extremely low birth weight infants weigh <1000 grams.

Since low birth weight infants have higher morbidity and mortality and face more challenges in their care, our goal was to examine the complications during cardiac catheterizations performed for diagnostic or interventional purposes.

Methods:

We searched our catheter laboratory retrospectively for all catheterizations between 01/01/2007 and 31/12/2016 covering a 10 year period. We selected all neonates and infants whose weight at the time of catheterization was < 2500 grams. Subsequently we discovered the causes for the catheterization, whether the catheterization was diagnostic or interventional and any complications that may have arisen.

Results:

54 children who had undergone catheterization were identified. 29 (54%) were boys and 25 (46%) were girls. They were from 1 to 171 days old at the time of catheterization. Their weight ranged from 980 to 2500 grams. One baby was extremely low weight at 980 grams and one was very low weight at 1200 grams. 14(26%) of the catheterizations were interventional. The indications for the interventional catheterization were : 1) DTGA -Balloon atrial septostomy (5/14), 2)DORV+TGA - Balloon atrial septostomy (1/14), 3)Pulmonary Valve atresia- Balloon atrial septostomy (1/14),4)Valvuloplasty for pulmonary stenosis (3/14), 5)Valvuloplasty for Aortic stenosis (1/14) 6)Valvuloplasty for Coarctation of the aorta(2/14) and 7) Removal of retained central venous catheter (1/14). The most common indications for diagnostic catheterization was Coarctation of Aorta (9/40), followed by Tetralogy Of Fallot (5/40), Double Outlet Right Ventricle(3/40), Pulmonary Atresia (3/40), Ventricular Septal Defect (3/40) and Univentricular heart (3/40).

The children on the interventional group were younger (mean 12.5 days vs 30.95 days) and less heavy (mean 2109 grams vs 2142 grams) than the non interventional group.

None of the children died during the postoperative period, but one child in the interventional group had recurrent SVT during valvuloplasty managed successfully by pacing.

Conclusions:

Low birth weight infants tolerated the procedures ,well even the interventional catheterization. Our experience shows that the indications have been expanding through the years.