



RESULTS AND OUR EXPERIENCES ABOUT PATENT DUCTUS ARTERIOSUS STENTING IN NEONATES WITH PULMONARY VALVE ATRESIA

Mohammad Reza Edraki¹

¹ Namazi Hospital; Interventional; Pediatric Cardiology

Background:

Patent ductus arteriosus (PDA) stenting was invented particularly for congenital heart diseases with ductal dependent pulmonary blood flow, and newer techniques are introduced constantly.

Objectives:

In this study, we investigate the one-year results of this procedure and describe some of our periprocedural considerations.

Methods:

The neonates with pulmonary atresia and ventricular septal defect who underwent PDA stenting from February 2016 to December 2018 in our center were included in this retrospective study. Spo₂ and McGoon ratio were recorded before and a year after stenting, and compared to each other.

Results:

PDA stenting was performed for 26 neonates; 20 procedures (77%) were successful and 6 were unsuccessful (23%). Of these unsuccessful cases, 2 expired during procedure and 2 expired later because of neonatal sepsis. 18 PDAs (70%) were accessed from the axillary artery, 6 (23%) from the femoral artery, and 2 (7%) from the antegrade inferior vena cava route.

The comparison between the results of before and a year after stenting revealed the increase of O₂ saturation from 53.78 ± 7.35 to 84.33 ± 6.5 (p-value = 0.032) and McGoon ratio from 1.16 ± 0.25 to 1.65 ± 0.34 (p-value = 0.041).

We also described some of our technical considerations for PDA stenting regarding the access point, management of pulmonary artery bifurcation stenosis, stent diameter, stenting of long and tortuous PDAs, thrombosis and anticoagulation.



Conclusion:

Ductal stenting increases SpO₂ and McGoon ratio and could be a less-invasive option for securing pulmonary blood circulation. However, further studies are required to advance PDA stenting techniques for specific anatomical features.

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