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# Feasibility and outcomes of Trans catheter

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## Abstract

The study aims to assess feasibility of transcatheter device closure of patent ductus arteriosus in infants weighing less than 5 kg and retrospectively compares the result with the age and weight matched surgical duct ligation group. Twenty infants weighing less than 5 kg underwent device closure of patent ductus arteriosus between January 2017 to May 2019. The result was compared with retrospective data from twenty other infants who underwent surgical duct ligation.

**Key words:** Patent ductus arteriosus, Transcatheter device closure, Infants, Surgical ductal ligationIschemic heart diseases

## INTRODUCTION

Myocardial infarction is defined as the cardiovascular disease which deals with insufficient blood supply and oxygen to heart, then heart muscle gets damaged.

Since the first percutaneous closure of Patent Ducts Arteriosus by Postman in 1968, Tran's catheter closure of patent arterial duct has become a well-established alternative to surgical ductal ligation.

Tran's catheter device closure or surgical ligation is indicated in hemodynamic ally significant ducts manifesting with refractory congestive cardiac failure or severe pulmonary.

Artery hypertension with features of volume overloading of left atrium and left ventricle. Large hemodynamically significant ductus is often encountered in infants leading to recurrent, difficult to treat respiratory infections, poor feeding and hence, poor weight gain. These infants are the ones likely to benefit from an early closure of the ductus to relieve symptoms and ensure weight gain.

Earlier, literature recommended surgery for the closure of large arterial duct in symptomatic infants weighing less than 5 kg.

Device manufacturers also do not recommend the use of duct occlude in patients with a body weight of ≤ 6 kg.Although, experience with device closure in infants weighing less than 6 kg is limited, there are emerging evidence in literature on Challenges, feasibility and outcomes of Tran's catheter Intervention in these small infants. Concerns regarding pulmonary and aortic encroachment by a large device, need for large delivery sheaths, and risk of vascular compromise and kinking of sheath in the acute turn of the right ventricular outflow tract have been raised.

Meanwhile, surgical duct ligation is also fraught with complications like wound infection, hemorrhage, recurrent laryngeal nerve paralysis, diaphragmatic palsy, pleural effusion, ligation of wrong structures etc.

Our aim was to study feasibility, safety and outcomes of transcathether device closure of hemodynamically significant arterial duct in infants weighing less than 5 kg, as judged by echo having left atrium: aorta ratio greater than 1.8 and dilated left ventricle (Z score >+2) and comparison with infants who underwent surgical duct ligation.