blood insulin levels in our study. Secondly, cord blood insulin concentrations decrease if collected in heparin and stored at room temperature[1]. But in our study, the samples were collected in EDTA and immediately refrigerated. The third explanation could be the pulsatile release and shorter half-life of insulin coupled with its possible fluctuations during delivery[1].

To conclude, neither neonatal anthropometry nor cord insulin levels show sexual dimorphism at birth among Indian children. Being an observational cross-sectional study with limited sample size, our results need validation from larger studies.

***Key words:*** Anthropometry; Birth Weight; Cord Blood Insulin; Large for Gestational Age, Appropriate for gestational age

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# Native Right Ventricular Outflow Tract Stenting in a Child with Tetralogy of Fallot and Absent Left Pulmonary Artery

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Although percutaneous placement of intravascular stents in congenital heart disease is a common practice, there are few reports regarding native right ventricular outflow tract (RVOT) stenting in children[1]. Stenting of conduit stenoses are more commonly reported[2].

In the preoperative setting, palliation of significant cyanosis by balloon valvuloplasty or RVOT stenting has been advocated by some as a means for reducing symptomatic cyanosis in patients with severe annular hypoplasia. Improvement in antegrade flow is thought to simultaneously enhance pulmonary arterial growth by augmenting pulmonary blood flow.

Most of transcatheter interventions for relieving RVOT were done for conduit stenosis. There are few reports about native RVOT stenting, and to the best of our knowledge there are very few reports on native RVOT stenting in tetralogy of fallot (TOF) with absent left pulmonary artery[3].

A 9-year-old child was admitted with cyanosis noted from birth with failure to thrive, cyanotic spells and worsening cyanosis. The patient had undergone central modified Blalock- Tausig (MBT) shunt and right MBT shunt at the ages of three and six respectively. At this admission the child weighed 17 kg, had severe systemic desaturation (<55%) and severe cyanosis, digital clubbing and a New York Heart Association (NYHA) classification of class IV. Clinical examination revealed unremarkable pulmonary examination and 3/6 systolic heart murmur at pulmonary focus.

EKG revealed normal sinus rhythm, right axis deviation and severe right ventricular hypertrophy (RVH). Echocardiography showed TOF anatomy, severe RVOT stenosis with 75

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mmHg pressure gradient, RVH, abscent left pulmonary artery branch (LPA), non-functioning previous MBT shunts and major collateral arteries originating from descending aorta. On catheterization, both previous MBT shunts were occluded, the right pulmonary artery (RPA) was small with fairly acceptable arborization. Left lung was supplied by major collateral arteries originating from descending aorta and severe RVOT stenosis was present (Fig. 1). RVOT stenting was performed by two consecutive stents (17×7 mm Express LD, Boston Scientific. USA and 18×5 mm Racer renal stents, Medtronic USA). Post stenting angiography showed significant increase in pulmonary blood flow to the right lung (Fig. 2).

The arterial oxygen saturation rose to 83%. At six-month follow-up, his arterial oxygen saturation was maintained at above 80% and NYHA functional class was improved to class II. Palliative procedures for relieving RVOT stenosis include either surgical or transcatheter interventions. The indications for RVOT stenting are RV-to-PA conduit stenosis, residual infundibular stenosis after intracardiac repair, TOF with hypoplastic branch pulmonary arteries after palliative shunt surgery, pulmonary atresia after perforation of atretic segment, and RV hypertrophic cardiomyopathy and also as a bridge to surgery. RVOT stenting is also usually indicated in cases in those patients who are not amenable to total surgical repair. Our patient had absent LPA, small RPA and poor clinical condition. Thus, we carried out percutaneous RVOT stenting.

RVOT stenting in such patients theoretically can lead to two major problems: overflow and edema of the right lung with resultant vasculopathy in the long term, and free pulmonary valve regurgitation with its consequences that include right ventricular dilatation and dysfunction.

In our case, none of these complications occurred, because we chose the stent size with scrutiny and we did not sacrifice the pulmonary valve. Also we did not have complications such as stent migration, ventricular arrhythmias, collapse or fracture of the stent and recurrent stenosis during follow up. To our knowledge the patient has not undergone any curative operation by now.

RVOT stenting provides an effective palliative modality for children with TOF and unfavorable pulmonary artery anatomy. Although re-stenosis can occur but it responds to re-dilatation.

In high risk patients such as our patient with severe cyanosis and high hemoglobin level and blood viscosity, the RVOT stenting decreases perioperative morbidity and mortality[4]. In conclusion native RVOT stenting is an effective and safe procedure in appropriately selected patients, especially in whom total correction is not possible. This procedure causes better growth of pulmonary artery branches, decreases right ventricular hypertrophy and increases left ventricular volume. Although many of these stents cannot be dilated to adult size, their efficacy in small infants and children in whom further surgery will ultimately be required is remarkable.

***Key words:*** Stenting; Tetralogy of Fallot; RVOT Stenosis

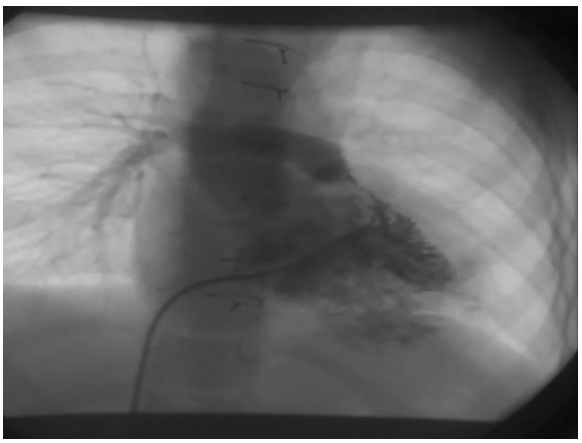

**Fig. 1:** Right ventricular injection in anteroposterior view shows severe right ventricular outflow tract stenosis and absent left pulmonary artery

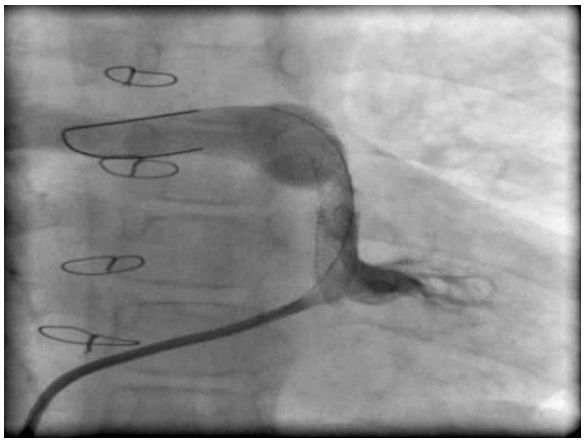

**Fig. 2:** Right ventricular injection in anteroposterior view after right ventricular outflow tract stenting shows significant resolved stenosis and increased right lung blood flow without pulmonary valve involvement.

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# Comparison of Children's Oral Health Related Quality Of Life Pre- and Post Dental Treatment Under General Anesthesia Using F-ECOHIS Questionnaire


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In developing countries, there is an increasing trend of chronic diseases such as tooth decay, obesity and diabetes especially in children[1]. Tooth decay in its severe form which is called nursing caries or early childhood caries (ECC) has impact on child growth and development. Children diagnosed with ECC weighed less than the matched control group due to the impact of pain and dysfunction on child's eating and sleeping habit[2].

Oral health related quality of life (OHRQoL) is measured by different tools[3,4]. In pre-school age children, Pahel developed ECOHIS questionnaire[5], which was validated in local languages[6]. Severe form of ECC (S-ECC) is defined as the presence of any sign of smooth-surface caries in children younger than 3 years of age or detecting 1 or more cavitated lesions in smooth surfaces of maxillary anterior teeth or more than 4 decayed, missing, or filled surfaces in 3-5-year old children[7].

Parents of children under 5 years old attending three clinics providing complete dental treatment under general anesthesia (GA) consisting of Imam Khomeini Hospital, Mofid Children's Hospital, and Shayamehr Clinics in Tehran, entered the study after ethical clearance and asked to fill in the validated Farsi version of ECOHIS questionnaire (n=81). Cases referred had severe caries, however were re-examined by two independent pediatric dentists to confirm the need for treatment under GA. Those children having severe medical conditions and mental retardation were excluded. On the 1st and 2nd follow-up sessions 4 weeks and 3-months after dental rehabilitation the same family member who spent most of the time with the child was asked to fill in the same questionnaire.

The questionnaire contains 13 questions in two sections. Child section consists questions in four domains: (i) Child Symptom Domain (CSD) includes pain, (ii) Child Function Domain (CFD) includes child trouble in eating and drinking, pronouncing words and missing preschool or day care, (iii) Child Psychology Domain (CPD) includes trouble sleeping and being irritable, (iv) Child Self-image and Social Interaction Domain (CSID) includes avoiding smile or talk. Parent section was comprised (i) Family Distress Domain (FDD) and (ii) Family Function Domain (FFD)[8].

Responses were from "never" to "very often" scored 0 to 4 and summed up in each domain for mean value calculation. Higher value in each domain demonstrates perceived negative impact of the oral health condition and compared on the baseline and follow up sessions.

In this study, significant improvement was observed in both child and parent sections. In the CFD domain the mean score 5.08±3.5 was significantly improved in the follow up sessions (Table 1). Abanto et al, have also reported high mean score of 4.15±3.92 in this domain among Brazilian children with S-ECC[9]. This implies caries in its severe form has impact on children's usual daily function. There was also improvement in CSD domain after treatment. It was reported in the study of Acs et al, that improvement in pain


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