



**Dr S R ANIL**  
**PEA. CARDIOLOGIST**

**Curriculum Vitae**

**SIVADASAN RADHA ANIL MD, DCH, DNB (Ped), DNB (Card)**

**Birth** : 25<sup>th</sup> May 1968, Quilon, India  
**Nationality** : Indian  
**Present Occupation** : Consultant Pediatric Cardiologist,  
Apollo Hospitals, Hyderabad

**Educational Qualifications**

**Graduation:** **1990:** Bachelor of Medicine and Bachelor of Surgery (MBBS),  
T D Medical College, Alleppey 5, Kerala, India

**Post graduation:** **1994:** Diploma in Child Health (DCH)  
Medical College, University of Calicut, Kerala, India

**1996:** Primary Specialty Board in Pediatrics (MD),  
Medical College, University of Calicut, Kerala, India

**1996:** Accreditation from National Board of Examinations in  
Pediatrics, Diplomate in National Board

**2000:** Accreditation from National Board of Examinations in  
Cardiology, Diplomate in National Board (Cardiology)

**Licensure in India**

Medical Council of India # 19802, Travancore-Cochin Medical Council, 26 March 1992

**Residencies and Fellowships**

March 1991 – March 1992: Rotatory Internship, General Hospital, Ernakulam, India.

March 1992 - April 1992:	Junior Resident in orthopedics, Lisie Hospital Ernakulam. Kerala, India.
May 1992 – August 1992:	Junior Resident in Cardiology, Indira Gandhi Cooperative Hospital Ernakulam, India.
September 92 –September1995	Resident in Pediatrics, Institute of Maternal and Child Health, Calicut-8, India.
March 1997 - June 1999:	Fellow In Cardiology, Sri Sathya Sai Institute Of Higher Medical Sciences, Puttaparthi, Andra Pradesh India.
August 1999 – March 2000	Senior Resident, Pediatric Cardiology, Amrita Institute of Medical Sciences, Kochi 682026, India.
September 2002 – October 2002	Observer, Pediatric ICU - POD-A, Mott Children’s hospital, Ann Arbor, Michigan, under Dr Tom Kulik MD.

### **Clinical Positions**

Dec 1995-Dec 1996	Consultant in Pediatrics AM Hospital, Karunagapally, Kerala.
Jan 2000 -May 2004	Specialist, Department of Pediatric Cardiology, Amrita Institute of Medical Sciences, Kochi 682026, India.
June 2004-Mar 2006	Consultant Pediatric Cardiologist, Apollo Hospital, Jubilee Hills, Hyderabad.

### **Teaching Experience**

<b>September 1992 – 1995</b>	Bedside clinical demonstrations for medical students and interns, seminars and journal reviews in Pediatrics.
<b>March 1997– June1999</b>	Seminars, case discussions for medical students, residents in cardiology fellows.

### **Publications - Original Articles**

1. Anil SR, Sivakumar K, Kumar RK. Transcatheter closure of small arterial ducts without arterial access. *Cardiology in the Young* 2002; 12:51-56.
2. Anil SR, Sivakumar K, Kumar RK. Biopptome assisted closure of coronary artery fistula. *Indian Heart Journal* 2002; 54:189-192.
3. Anil SR, Manoj P, Kumar RK. Primary Chylopericardium in an Infant, a case report. *Indian Heart Journal* 2002; 54:295-296.
4. Anil SR, Sivakumar K, Philip A, Francis E, Kumar RK. Clinical course and Management strategies for hemolysis after transcatheter closure of the patent arterial duct. *Catheterization and Cardiovascular Interventions* 2003; 59:538-43.
5. Kannan BRJ, Anil SR, Kumar RK, anomalous left coronary artery from non-adjacent sinus of pulmonary artery. *Cardiology in the Young* 2003; 13:95-97.

6. Anil SR, Rao SG and Kumar RK, Duplication of the Tricuspid valve apparatus. *Cardiology in the young* 2003; 13:100-102.
7. Kumar RK, Krishnan MN, Venugopal K, Anil SR, Sivakumar, Biopptome-assisted simultaneous delivery of multiple coils for closure of the large PDA. *Catheterization and Cardiovascular Interventions* 2001; 54:95-100.
8. Sivakumar K, Anil SR, Ravichandra M, Natarajan KU, Kamath P, Kumar RK, Emergency Transcatheter recanalization of acutely thrombosed Blalock Taussig shunts, *Indian Heart Journal* 2001; 53:743-748.
9. Sivakumar K, Anil SR, Rao SG, Shivaprakash K, Kumar RK. Closure of Muscular Ventricular Septal Defects Guided by En-face Reconstruction of the Right Ventricular Septal Surface Using Two Dimensional Echocardiography. *Annals of Thoracic Surgery* 2003; 76:158-66.
10. Anil SR, Dharan BS, Kumar RK, Rao SG. Anomalous coronary from the pulmonary artery with coarctation of aorta, *Annals of thoracic Surgery* 2004;18(3):327-31.
11. Anil SR, Kannan BRJ, Kumar RK. Transcatheter closure of native pulmonary artery for elimination of accessory pulmonary blood flow after bidirectional Glenn shunts. *Indian Heart Journal* 2003;55:373-375.
12. Kannan BRJ, Anil SR, Sivakumar K, Kumar RK. Transcatheter closure of the very large atrial septal defects using the Amplatzer septal occluder *Catheterization and Cardiovascular Interventions* 2003; 59:522-527.
13. Kumar RK, Anil SR, Kannan BRJ, Philip A, Sivakumar K. Biopptome-assisted coil occlusion of moderate-large patent arterial ducts in infants and small children. *Catheterization and Cardiovascular Interventions* 2004; 62:266-271.
14. Kannan BRJ, Anil SR, Kumar RK, anomalous left coronary artery from the anterior sinus of pulmonary artery. *Cardiology in the Young* 2003; 13:95-97.
15. Koshy S, Sunil GS, Anil SR, Dinakaran S, Shivaprakasha K, Rao SG, Tricuspid valve detachment for transatrial closure of ventricular septal defects. *Asian Cardiovasc Thorac Ann* 2002; 10:314-7.
16. Kannan BRJ, Anil SR, Haridas KK, Kumar RK. Biopptome assisted Coil Closure of large Pulmonary Artery Venous Malformations. *J Vasc Interv Radiol* 2006; 17(1):147-51.
17. Kannan BRJ, Anil SR, Kumar RK. Cannulation of patent duct in patients with pulmonary atresia and ventricular septal defect. *Catheterization and Cardiovascular Interventions* 2005; 65:455-8.
18. Kannan BRJ, Anil S.R, Padhi SS, Kumar RK. Transcatheter closure of patent ductus arteriosus in sick ventilated small infants. *Indian Heart Journal* 2004; 56(3):232-4.
19. Anil S R, Sreekanth Raghavan, Sanjay Bhalerao, Nagarajan R, Rohit Agrarval, Girish N.B, Transcatheter closure of perimembranous ventricular septal defects with Amplatzer membranous occluder- Single institution experience, in press *Indian Heart Journal*.

#### **Best Paper award:**

- 1, Balloon dilatation of Aortic valve in critical Aortic Stenosis in Infants. Best paper award of CSI kerala chapter, November 2000, Cochin.
- 2, Enface reconstruction of muscular ventricular septal defects on the right ventricular septal surface by 2-Dimensional echocardiography, BEST SCIENTIFIC PAPER of Annual State CSI conference, Trivandrum, 2001 and SEARLE AWARD, 53<sup>rd</sup> annual CSI conference, Hyderabad December 2001.

#### **CME Courses and Workshops Conducted:**

1. Workshop on Rheumatic Fever and Rheumatic Heart Disease, AIMS, Kochi, March 9, 2003, May 17, 2003

2. Live Workshop: PDA coil closure, Meenakshi Mission Hospital, Madurai College, June 2003
3. Workshop on Rheumatic Fever and Rheumatic Heart Disease, AIMS, Kochi, March 9, 2003, May 17, 2003.
4. CME program on treatment options in CHD: Attended by 32 pediatricians from the district of Kottayam (Amrita Institute of Medical Sciences): October 26<sup>th</sup> 2003.
5. Live Workshop: ASD device closure, Meenakshi Mission Hospital, Madurai College, December 2004.
6. Live Workshop: Perimembranous VSD device closure, Apollo Children's Heart Hospital, Hyderabad: January 2005.

#### **Conferences Organized:**

1. The Second Annual conference of the Pediatric Cardiac Society of India, March 2000, AIMS, Kochi, Kerala, India. Seven international faculty members participated. Attended by 250 delegates
2. Workshop on Echocardiography for Congenital Heart Disease (Amrita Institute of Medical Sciences): April 21-22, attended by 170 delegates from all over India.
3. Perioperative Care for Congenital Heart Disease: Symposium organized by Pediatric Cardiac Society of India and Amrita Institute of Medical Sciences, AIMS, Kochi, October 2002. Symposium attended by 77 delegates (cardiac surgeons, anesthesiologists and pediatric cardiologists from all over India)
4. The 7<sup>th</sup> annual PSCI conference hosted at Apollo Children's Heart Hospital, Hyderabad, 2005. Attended by 350 delegates with sis international faculty. This was the first PCSI with a live workshop.

#### **EXPERIENCE IN CARDIAC CATHETERISATION:**

- All pediatric diagnostic cardiac catheterization procedures.
- **ASD DEVICE CLOSURE:** Personally performed over 150 Amplatz ASD device closure as the primary operator. Has performed Helex device closure in 3 patients.
- **VSD DEVICE CLOSURE:** Personally performed closure of acquired and congenital muscular VSD using AMPLATZER muscular VSD occluder. Performed 28 perimembranous Amplatz membranous occluder closure in children in the last one year.
- **PDA DEVICE CLOSURE:** AMPLATZER device closure of PDA done as the primary operator in over 50 patients.
- **PDA COIL CLOSURE:** Personally performed 450 PDA COIL closures, which includes large PDA (> 6mm) as the primary operator.
- **COARCTATION INTERVENTIONS:** balloon dilatation and stenting in 15 patients.
- **AORTIC AND PULMONARY VALVOTOMY:** Balloon dilatations including neonates as the primary operator. Performed balloon dilatations in critical aortic stenosis (duct dependent systemic circulation) and in patients with critical pulmonic stenosis in over 12 patients successfully without mortality.
- **MITRAL COMMISSUROTOMY:** Inoue balloon dilatation of juvenile MS in 35 patients as the primary operator.
- **COIL CLOSURE** of anomalous vessels in pulmonary sequestrations, MAPCA in cyanotic diseases, pulmonary AV fistulae, coronary AV fistulae.

#### **Challenging interventions done during this period:**

1. Performed the first successful balloon dilatation of valvar pulmonary atresia retrogradely through the PDA in a 4 month old infant with pulmonary atresia intact septum with severe tricuspid regurgitation. After complete relief of

obstruction, the duct was closed with bioptome assisted coil closure in a repeat procedure after 2 weeks (*To be reported*).

2. ADO device closure of native pulmonary valve in a patient with excessive antegrade accessory pulmonary blood flow after BDG (in press-*Indian heart journal*).
3. Emergency primary stenting done as a salvage procedure in a case of severe coarctation of aorta with severe LV dysfunction and hemodynamic instability in whom surgery was not considered feasible.
4. Ductal stenting in a newborn with 3mm x 10 mm prolink stent in a patient with critical pulmonic stenosis who had continued to desaturate after successful balloon dilation of the pulmonary valve. The child did not respond to prostaglandin infusion.
5. ADO device closure of coronary AV fistula in a 6 month old infant with severe PAH and CHF.
6. VSD device closure at a Medical College hospital in Rajamandry. The patient, 58 years old, after AWWMI, developed acquired muscular VSD, was on IABP with low cardiac output. A 16 mm Muscular Device was put through a jugular approach and the patient was weaned from IABP after 48 hours and discharged. He also underwent percutaneous revascularization in the same sitting.

- **PA DILATION AND STENTING:** Assisted in PA dilatation and stenting of branch pulmonary arteries as the first assistant in five cases.
- **CLOSURE OF CORONARY CAMERAL FISTULA:** Assisted as the first assistant in 8 cases and has done four cases as the primary operator.
- **CONDUIT DILATION AND STENTING:** 5 cases of conduit stenting in postoperative patients.

#### **ECHOCARDIOGRAPHY:**

- Extensive experience in pediatric echocardiography using Hewlett Packard Sonos 5500 and 1000, Wide-ranging exposure in transesophageal and fetal echocardiography. Over the last one year has performed 100 3D echocardiograms with HP 7500.
- Fetal echocardiography experience for 2 years: 4- 5 cases per week.

#### **CARDIAC SURGICAL SUPPORT:**

- **Pre operative** detailed evaluation prior to complex cardiac surgeries including arterial switch, Ross, Rastelli, Senning, Complex intracardiac repairs, TAPVC repairs and other procedures.
- **Intraoperative** evaluation of hemodynamics, assisting in diagnosis of residual lesions using epicardial and trans esophageal echocardiography in the operating room
- **Postoperative** assessment after complex cardiac surgeries, diagnosis of cardiac arrhythmias using atrial electro grams, post operative temporary single and dual chamber pacing, administration of nitric oxide in postoperative period.

## Positions held:

**From June 2004 to March 2006**

### **APOLLO HOSPITALS HYDERABAD**

Designation                      Consultant Pediatric Cardiologist,  
Apollo Hospital, Jubilee Hills, Hyderabad.

This institution is a 350 bed multispecialty institution with a pediatric cardiology department, having an attendance of around 25 outpatient registrations, around 50 diagnostic echocardiograms per week, 5-7 pediatric cath procedures per week which comprises of 70 – 75% of interventional procedures, 12-15 pediatric cardiac surgeries per week which includes around 95% of open heart procedures.

**From 2004 June onwards:** 205 children underwent catheterization related procedure at Apollo Children Heart Hospital. 130 children had interventional procedures, which included 62 PDA closures, 30 Ventricular septal defect closure, of which 26 were perimembranous devices and 18 ASD device closures. The whole period had no mortality in cath related procedures and was done by a single operator. In this period 540 children underwent surgical procedures for various cardiac defects with a mortality of less than 8%. Most of the children underwent surgery on the basis of echocardiography, with less than 20% requiring cardiac catheterization.

During this period, one workshop for VSD device closure with asymmetric device with international Faculty was organized at Apollo Children's Heart Hospital- January 12th 2005. Many cardiologists in the country were part of the workshop.

The 7<sup>th</sup> Annual pediatric Cardiac conference (PCSI- 2005) was organized by Apollo Children's Heart Hospital. This conference was attended by 350 delegates and had a live interventional workshop was conducted for the first time in the PCSI meeting. During this period 6 papers were presented in the fourth world congress of pediatric cardiology and cardiac surgery.

**From March 2006 to October 2007**

### **MALABAR INSTITUTE OF MEDICAL SCIENCES, CALICUT, KERALA**

Designation                      Consultant Pediatric Cardiologist,

This institution is a 350 bed multispecialty institution where I was instrumental in establishing the pediatric cardiology unit. Currently, there is a well established team which does 8- 10 open heart surgeries per month. There are now 4 dedicated personnel in the pediatric cardiology department, which I head.

**From 2006 June onwards:** 100 patients underwent catheterization related procedures in the last one year. During this period 32 patients underwent PDA closures (25 coil closure, rest device closure), 2 patients underwent Ventricular septal defect closure, and 11 had ASD device closures. The whole period had no mortality in cath related procedures and was done by a single operator.

During this period a trust for children with heart defect was formed with the intention of raising funds to help families which need financial assistance. This trust is named

'Heartbeats' and from the money raised from the fund raising events we were able to do procedures in 58 children.

**From October 2007 onwards:**

**APOLLO HOSPITALS HYDERABAD**

Designation	Senior Consultant Pediatric Cardiologist Coordinator of Pediatric Cardiac services Apollo Hospital, Jubilee Hills, Hyderabad
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