

# **SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES AND TECHNOLOGY**

**Thiruvananthapuram – 695011, India**



## **WORK RECORD**

Name : Dr. C. ANANTHANARAYANAN

Course : MCh

Discipline : CARDIO VASCULAR AND THORACIC SURGERY

Year of Study : Jan 2012 – Dec 2014

# CERTIFICATE

*I hereby certify that I have performed / assisted all the procedures listed in the work record.*

Place:

Signature:

Date:

Name: Dr. C.Ananthanarayanan

**Forwarded:** The above candidate has satisfactorily carried out the minimum required procedures.

*Seal*

Prof. Jayakumar K,  
Head of the Department,  
Department of CVTS,  
SCTIMST,  
Thiruvananthapuram.

## **PROCEDURES PERFORMED**

|  |          |
|--|----------|
| <b>OS ASD CLOSURE</b>                                      | <b>4</b> |
| <b>SINUS VENOSUS ASD<br/>CLOSURE + PAPVC<br/>REROUTING</b> | <b>2</b> |
| <b>ASD CLOSURE +<br/>PULMONARY<br/>VALVOTOMY</b>           | <b>1</b> |
| <b>VSD CLOSURE</b>   | <b>1</b> |
| <b>BIDIRECTIONAL GLENN<br/>SHUNT</b>                       | <b>1</b> |

# **PROCEDURES ASSISTED**

## **ADULT CARDIAC SURGERY**

|   |           |
|---|-----------|
| <b>CABG/ OPCAB</b>  | <b>96</b> |
| <b>MVR</b>  | <b>27</b> |
| <b>AVR</b>  | <b>21</b> |
| <b>DVR</b>  | <b>6</b>  |
| <b>MV REPAIR</b>  | <b>4</b>  |
| <b>BENTALL PROCEDURE/<br/>SUPRACORONARY ASCENDING AORTA<br/>REPLACEMENT</b> | <b>10</b> |
| <b>AVR + CABG</b>   | <b>16</b> |
| <b>MVR + CABG</b>   | <b>1</b>  |
| <b>ASD CLOSURE + CABG</b>   | <b>1</b>  |
| <b>AVR + AORTOPLASTY + CABG</b>   | <b>1</b>  |
| <b>REDO CABG</b>  | <b>1</b>  |
| <b>REDO MVR</b>   | <b>1</b>  |
| <b>REDO AVR</b>   | <b>1</b>  |
| <b>DOR PROCEDURE</b>  | <b>1</b>  |

|                                      |          |
|--------------------------------------|----------|
| <b>MVR + TVA</b>                     | <b>4</b> |
| <b>AORTIC ROOT ENLARGEMENT + AVR</b> | <b>1</b> |
| <b>OMV + TVA</b>                     | <b>1</b> |
| <b>RSOV REPAIR</b>                   | <b>2</b> |
| <b>MVR + ASD CLOSURE</b>             | <b>1</b> |
| <b>MV REPAIR + ASD CLOSURE</b>       | <b>1</b> |
| <b>VSR REPAIR + CABG</b>             | <b>1</b> |
| <b>SAM EXCISION + AVR</b>            | <b>1</b> |

# PROCEDURES ASSISTED

## CONGENITAL HEART SURGERY

|  |           |
|--|-----------|
| <b>OSTIUM SECUNDUM ASD CLOSURE</b>                     | <b>18</b> |
| <b>SINUS VENOSUS ASD CLOSURE +<br/>PAPVC REROUTING</b> | <b>15</b> |
| <b>VSD CLOSURE</b>                                     | <b>18</b> |
| <b>ICR for TOF</b>                                     | <b>31</b> |
| <b>TAPVC REPAIR</b>                                    | <b>6</b>  |
| <b>BDG</b>   | <b>16</b> |
| <b>ASO</b>   | <b>9</b>  |
| <b>TCPC</b>  | <b>2</b>  |
| <b>COARCTATION/ INTERRUPTED AORTIC<br/>ARCH REPAIR</b> | <b>4</b>  |
| <b>MODIFIED BT SHUNT</b>                               | <b>8</b>  |
| <b>C-AVCD REPAIR</b>                                   | <b>4</b>  |
| <b>P- AVCD REPAIR</b>                                  | <b>2</b>  |
| <b>PA BAND</b>   | <b>3</b>  |
| <b>SENNING PROCEDURE</b>                               | <b>1</b>  |
| <b>ALCAPA- TRANSLOCATION OF LCA</b>                    | <b>2</b>  |
| <b>PDA INTERRUPTION</b>                                | <b>2</b>  |
| <b>VSD CLOSURE + AORTIC VALVE<br/>REPAIR</b>           | <b>2</b>  |
| <b>WARDEN PROCEDURE</b>                                | <b>2</b>  |
| <b>NORWOOD PROCEDURE</b>                               | <b>1</b>  |
| <b>CONE REPAIR – EBSTEIN<br/>ANOMALY</b>               | <b>2</b>  |

|  |          |
|--|----------|
| <b>RASTELLI PROCEDURE</b>                            | <b>1</b> |
| <b>RV TO PA HOMOGRAFT CONDUIT REPAIR</b>             | <b>1</b> |
| <b>TRUNCUS ARTERIOSUS REPAIR</b>                     | <b>1</b> |
| <b>ASO + VSD CLOSURE</b>                             | <b>1</b> |
| <b>ASO + VSD CLOSURE + ARCH REPAIR</b>               | <b>1</b> |
| <b>COR-TRIATRIATUM REPAIR + PA BAND</b>              | <b>1</b> |
| <b>INTRACARDIAC TUNNEL REPAIR FOR DORV</b>           | <b>3</b> |
| <b>REDOSTERNOTOMY + ASCENDING AORTIC REPLACEMENT</b> | <b>1</b> |
| <b>ASD CLOSURE + HAPVC REPAIR</b>                    | <b>1</b> |
| <b>TAPVC REPAIR + VSD CLOSURE</b>                    | <b>1</b> |
| <b>ARCH REPAIR + ATRIAL SEPTECTOMY + PA BAND</b>     | <b>1</b> |
| <b>ASD CLOSURE + PULMONARY VALVOTOMY</b>             | <b>1</b> |
| <b>SAM EXCISION + SEPTAL MYECTOMY + MVR</b>          | <b>1</b> |
| <b>RMBTS + ATRIAL SEPTECTOMY</b>                     | <b>1</b> |

# **PROCEDURES ASSISTED**

## **THORACIC AND VASCULAR SURGERY**

|   |          |
|---|----------|
| <b>VATS</b>   | <b>1</b> |
| <b>DECORTICATION</b>                                    | <b>1</b> |
| <b>THORACO ABDOMINAL<br/>AORTIC ANEURYSM<br/>REPAIR</b> | <b>1</b> |
| <b>PNEUMONECTOMY</b>                                    | <b>1</b> |

## MISCELLANEOUS

|   |           |
|---|-----------|
| <b>DELAYED STERNAL CLOSURE</b>                    | <b>10</b> |
| <b>WOUND DEBRIDEMENT +<br/>SECONDARY SUTURING</b> | <b>5</b>  |
| <b>TRACHEOSTOMY</b>                               | <b>2</b>  |
| <b>STERNAL WIRE REMOVAL</b>                       | <b>2</b>  |
| <b>HOMOGRIFT HARVEST AND<br/>TRIMMING</b>         | <b>10</b> |
| <b>LAPROTOMY</b>                                  | <b>1</b>  |
| <b>PERICARDIAL EFFUSION<br/>DRAINAGE</b>          | <b>4</b>  |
| <b>AVF CREATION</b>                               | <b>1</b>  |
| <b>SSG</b>  | <b>2</b>  |
| <b>LA/ PA LINE REMOVAL</b>                        | <b>8</b>  |

# CONFERENCES AND PRESENTATIONS

## **IACTSCON 2013 - The 58<sup>th</sup> Annual National Conference of the Indian Association of Cardiovascular and Thoracic Surgeons. Mumbai**

- 1. Demographic profile, clinical characteristics and outcomes of patients undergoing coronary artery bypass grafting—retrospective analysis of 4,024 patients*
- 2. Delayed sternal closure - Holding its ground in congenital heart surgery*

## **IACTSCON 2014 - The 60<sup>th</sup> Annual National Conference of the Indian Association of Cardiovascular and Thoracic Surgeons. Trivandrum**

- 1. Scimitar syndrome associated with anomalous venous drainage of Left Lung – Case Series*

## **5<sup>th</sup> Congress of Asia Pacific Pediatric Cardiac society**

### **APPCS- March- 2014. New Delhi**

- 1. Role of Balloon Atrial Septostomy In Pre-Op Stabilization Of TGA- Functionally Intact Ventricular Septum Presenting Late*

# **PROCEDURES PERFORMED**

| S. No | H. No  | NAME       | AGE | SEX | DOS      | DIAGNOSIS                                   | PROCEDURE   | SUPERVISED BY        |
|-------|--------|------------|-----|-----|----------|---|---|----------------------|
| 1     | ██████ | ██████████ | 4   | M   | 21-08-13 | ACHD, SP-VSD, GOOD LV,SR                    | GORETEX PATCH CLOSURE OF SP-VSD                       | Dr. SABARINATH MENON |
| 2     | ██████ | ██████████ | 14  | M   | 04-12-13 | CCHD, SV (RV), DIRV, DORV, SEV PS, SR       | BDG   | Dr. SABARINATH MENON |
| 3     | ██████ | ██████████ | 9   | F   | 17-12-13 | ACHD, OS ASD, SR                            | TPP CLOSURE OF OS ASD                                 | Dr. THOMAS MATHEW    |
| 4     | ██████ | ██████████ | 5   | F   | 23-12-13 | ACHD, OS ASD, SEVERE VALVAR PS, SR          | ASD CLOSURE(TPP) + PULMONARY VALVOTOMY                | Dr. SABARINATH MENON |
| 5     | ██████ | ██████████ | 3   | F   | 12-02-14 | ACHD, MALALIGNED POSTERIOR ASD, GD LV SR    | TPP CLOSURE OF ASD                                    | Dr. SABARINATH MENON |
| 6     | ██████ | ██████████ | 6   | M   | 03-03-14 | ACHD, LARGE OS ASD NO PAH, SR               | TPP CLOSURE OF OS ASD                                 | Dr. THOMAS MATHEW    |
| 7     | ██████ | ██████████ | 5   | F   | 09-07-14 | ACHD, OS ASD, PDA                           | TPP CLOSURE OF OS ASD + PDA INTERRUPTION              | Dr. THOMAS MATHEW    |
| 8     | ██████ | ██████████ | 8   | M   | 14-07-14 | ACHD, SV ASD (SVC TYPE), PAPVC OF RUPV, PFO | SV ASD CLOSURE (DOUBLE PATCH TECHNIQUE) + PFO CLOSURE | Dr. SABARINATH MENON |
| 9     | ██████ | ██████████ | 7   | M   | 18-08-14 | ACHD SV ASD (SVC) PAPVC OF RUPV             | SV ASD CLOSURE (DOUBLE PATCH TECHNIQUE) + PFO CLOSURE | DR. SABARINATH MENON |

# **PROCEDURES ASSISTED**

| S.NO | HNO    | NAME       | AGE | SEX | DOS      | DIAGNOSIS  | PROCEDURE   | SURGEON                |
|------|--------|------------|-----|-----|----------|--|---|------------------------|
| 1    | ██████ | ██████████ | 4   | M   | 17-02-12 | ACHD,SV-ASD, PAPVC OF RUPV, B/L SVC,SR                           | SV-ASD CLOSURE WITH PAPVC REROUTING (DOUBLE PATCH TECHNIQUE)  | Dr.SABARINATH MENON    |
| 2    | ██████ | ██████████ | 12  | F   | 15-03-12 | CCHD, BIPARTITE RV, PM-VSD, SEV VAL PS, LARGE OS-ASD, B/L SVC,SR | VSD CLOSURE + FENESTRATED TPP CLOSURE OF ASD + PUL VALVOTOMY. | Dr.BAIJU S.DHARAN      |
| 3    | ██████ | ██████████ | 4   | M   | 20-03-12 | CCHD, TOF, BORDERLINE PA, SEV PS, ATRETIC LPA ORIGIN ,PFO,NC, SR | ICR +TAP+ MONOCUSP RECONSTRUCTION OF RVOT + MPA/LPA PLASTY    | Dr.THOMAS MATHEW       |
| 4    | ██████ | ██████████ | 53  | M   | 18-05-12 | CAD,TVD,GOOD LV, SR, DM,HTN                                      | CABG X 4 GRAFTS (LIMA-LAD, RSVG-MAJOR OM,D1,PDA)              | Dr.PRAVEEN VARMA P.K.  |
| 5    | ██████ | ██████████ | 59  | M   | 24-05-12 | SEV AR,CAD,TVD,GOOD LV,SR, DM ,HTN                               | AVR #23PM + CABG X 1GRAFT (RSVG – LAD)                        | Dr.VIVEK V. PILLAI     |
| 6    | ██████ | ██████████ | 29  | M   | 25-05-12 | MVP, SEV MR, DIL LV, GOOD LV, MILD PAH, PDA,                     | MV REPAIR + TRANS PA PDA CLOSURE.                             | Dr.PRAVEEN VARMA P.K.  |
| 7    | ██████ | ██████     | 9   | F   | 28-05-12 | ACHD,OS ASD, MILD PAH, SR  | TPP CLOSURE OF OS ASD   | Dr. JAYAKUMAR.K        |
| 8    | ██████ | ██████████ | 59  | F   | 28-05-12 | CAD,TVD,GOOD LV, SR,HTN,DM                                       | CABG X 4 GRAFTS (LIMA-LAD, RSVG-OM,D1,PDA)                    | Dr. PRAVEEN VARMA P.K. |
| 9    | ██████ | ██████████ | 48  | M   | 30-05-12 | CAD, TVD, MOD AS, MILD AR, SEV LV DYSFUNCTION,SR.                | AVR #19SJR + CABG X 3 GRAFTS [LIMA- LAD, RSVG- OM & LPDA]     | Dr. PRAVEEN VARMA P.K. |
| 10   | ██████ | ██████████ | 2   | F   | 15-06-12 | CCHD,TOF,GOOD CONF PA, NC, SR.                                   | TRANS RA ICR  | Dr.THOMAS MATHEW       |
| 11   | ██████ | ██████████ | 2   | F   | 17-06-12 | CCHD,TOF,FAIR PA,SR SPELL  | ICR +TAP + MONOCUSP RECONSTRUCTION OF RVOT                    | Dr.THOMAS MATHEW       |
| 12   | ██████ | ██████████ | 3   | F   | 18-06-12 | CCHD,PA,VSD,LPA ORIGN STENOSIS, PDA, SR,SPELL                    | BDG WITH LPA PLASTY   | Dr.THOMAS MATHEW       |
| 13   | ██████ | ██████████ | 2   | F   | 19-06-12 | ACHD,C-AVCD-TYPE-A, SEV PAH,DOWN'S SYNDROME,HYPOTHYROIDISM       | AVCD REPAIR (DOUBLE PATCH TECHNIQUE)                          | Dr. BAIJU S.DHARAN     |
| 14   | ██████ | ██████████ | 2   | M   | 20-06-12 | CCHD,DORV,VSD,PS,CONFLUENT PA,TINY PDA,GOOD LV,SR                | INTRACARDIAC TUNNEL REPAIR                                    | Dr. BAIJU S.DHARAN     |
| 15   | ██████ | ██████████ | 6   | F   | 29-06-12 | ACHD, OS ASD, MILD PAH, SR.                                      | TPP CLOSURE OF ASD (MINISTERNOTOMY)                           | Dr.PRAVEEN REDDY B.    |
| 16   | ██████ | ██████     | 23  | M   | 10-07-12 | RHD,SEV AR,SEV MR,MOD MS, MILD PAH, GOOD LV, SR                  | DVR AV-#19 CHVP(22406) MV-27-SJM(86102472)+PMLP               | Dr. PRAVEEN VARMA P.K. |

| S.NO |  |  | AGE | SEX | DOS      | DIAGNOSIS  | PROCEDURE  | SURGEON                  |
|------|--|--|-----|-----|----------|--|--|--------------------------|
| 17   |  |  | 61  | F   | 11-07-12 | CAD,TVD,GOOD LV,SR,DM,HTN  | CABGX 4 GRAFTS (LIMA-LAD,RSVG-OM1,OM2,PDA)                   | Dr. JAYAKUMAR K          |
| 18   |  |  | 49  | F   | 13-07-12 | DESTROYED LEFT LUNG (TB SEQUAE) WTH MULTIPLE ASPERGILLOMA , IDDM         | LEFT PNEUMONECTOMY   | Dr. BALASUBRAMONIAM K.R. |
| 19   |  |  | 23  | M   | 26-07-12 | RHD,SEV AR,DILATED LV, MILD MR, GOOD LV, SR                              | AVR # 25 CHVP  | Dr. VARGHESE T.PANICKER  |
| 20   |  |  | 40  | M   | 30-07-12 | SEV AR, FAIR LV,DILATED LV, SR   | AVR #22 ATS  | Dr. VIVEK V. PILLAI      |
| 21   |  |  | 63  | F   | 30-07-12 | CAD,LMCA+TVD,GOOD LV,DM,HTN,SR   | CABGX4G (LIMA-LAD,RSVG-OM,DIAG,RPDA)                         | Dr. JAYAKUMAR K          |
| 22   |  |  | 53  | M   | 04-09-12 | RHD,SEV MS, MOD PAH, GOOD LV, NC,S/P ASD CLOSURE, RECENT CVA,AF WITH CVR | REDO STERNOTOMY WITH MVR #27 SJM                             | Dr. PRAVEEN VARMA P.K.   |
| 23   |  |  | 44  | M   | 06-09-12 | CAD,DVD,GOOD LV,SR   | CABG X 3 GRAFTS (LIMA-LAD, RSVG-OM,RI)                       | Dr. PRAVEEN VARMA P.K.   |
| 24   |  |  | 57  | M   | 03-10-12 | CAD,TVD,MOD LVD,SR   | CABG X 3 GRAFTS (LIMA- LAD, RSVG - PDA, OM1)                 | Dr. PRAVEEN VARMA P.K.   |
| 25   |  |  | 45  | F   | 03-10-12 | RHD,SEV MR,MOD MS,SEV AR,MILD AS,MOD PAH,GOOD LV,AF,NC                   | DVR, MV- # 27 SJM, AV-# 21 SJM                               | Dr. VARGHESE T.PANICKER  |
| 26   |  |  | 62  | M   | 04-10-12 | CAD,TCD,MILD LV DYSFUNCTION,SR   | CABG X 5 GRAFTS (LIMA-LAD, RSVG-D1,D2,MAJOR OM,PRE CRUX RCA) | Dr. VIVEK V. PILLAI      |
| 27   |  |  | 70  | F   | 08-10-12 | BAV,SEV CALC AS, GOOD LV,MILD CAD,SR,HTN                                 | AVR # 21 PM  | Dr. VIVEK V. PILLAI      |
| 28   |  |  | 31  | F   | 09-10-12 | RHD, P/BMV - ACUTE SEVERE MR,AF  | EMERGENCY MVR #23 SJM+ PMLP                                  | Dr. PRAVEEN VARMA P.K.   |
| 29   |  |  | 50  | M   | 09-10-12 | CAD,LMCA+TVD,GOOD LV,HTN,DM,SR   | CABG X 3G (LIMA - LAD,RSVG-OM,DIAGONAL)                      | Dr. JAYAKUMAR K          |
| 30   |  |  | 53  | F   | 11-10-12 | BAV,SEV CALC AS, GOOD LV, MILD AR,SR, NC, H/O TB                         | AVR #19 SJM  | Dr. PRAVEEN VARMA P.K.   |
| 31   |  |  | 31  | F   | 15-10-12 | ACHD,SV-ASD,PAPVC OF RUPV,GOOD LV,SR,MOD PAH                             | ASD CLOSURE + REROUTING OF RUPV(DOUBLE PATCH REPAIR)         | Dr. PRAVEEN VARMA P.K.   |
| 32   |  |  | 61  | M   | 15-10-12 | CAD,DVD,GOOD LV,DM,HTN,AVNRT-P/RFA,DM,HTN,COPD,SMOKER                    | CABG X 2 GRAFTS (LIMA - LAD, RSVG-PDA)                       | Dr. PRAVEEN VARMA P.K.   |

| S.NO |  |  | AGE | SEX | DOS        | DIAGNOSIS   | PROCEDURE  | SURGEON                 |
|------|--|--|-----|-----|------------|---|--|-------------------------|
| 33   |  |  | 23  | M   | 17-10-12   | ACHD,SV ASD, PAPVC OF RUPV AND RMPV,GOOD LV,SR          | SV ASD CLOSURE + RE ROUTING OF RUPV (DOUBLE PATCH TECHNIQUE)           | Dr. VARGHESE T.PANICKER |
| 34   |  |  | 59  | M   | 17-10-12   | CAD,TVD,MOD LVD,DM,HTN,SR                               | CABG X 3 GRAFTS (LIMA-LAD, RSVG-OM,PLB) + LINEAR PPLICATION OF LV APEX | Dr. PRAVEEN VARMA P.K.  |
| 35   |  |  | 46  | M   | 18-10-12   | BAV,SEV CALC AS, GOOD LV,CHB,P/TPI, NC                  | AVR # 19 CHVP  | Dr. PRAVEEN VARMA P.K.  |
| 36   |  |  | 21  | M   | 22-10-12   | ACHD,SVASD,PAPVC(RUPV),B/L SVC,MILD PAH,GD LV,SR        | SV-ASD CLOSURE+PAPVC REROUTING   | Dr. PRAVEEN VARMA P.K.  |
| 37   |  |  | 49  | M   | 30-10-12   | SEV CALC AS, MOD AR, GOOD LV, SR,NC                     | AVR(#21 CHVP)  | Dr. VARGHESE T.PANICKER |
| 38   |  |  | 23  | F   | 31-10-12   | MVP,SEV MR,DILATED LV,GOOD LV,SR                        | MVR # 31 SJM   | Dr. VARGHESE T.PANICKER |
| 39   |  |  | 62  | F   | 31-10-12   | RHD,SEV CALC MS,MILD MR,MOD TR,MOD PAH,GOOD LV,NC,AF    | MVR # 25   | Dr. VARGHESE T.PANICKER |
| 40   |  |  | 58  | F   | 09-11-12   | ACHD,OS ASD,SEV PAH,CAD,DVD,FAIR LV FUNCTION,MILD AR,SR | TPP CLOSURE OF OS ASD + CABG X 2 GRAFTS (RSVG-LAD,RI)                  | Dr. PRAVEEN VARMA P.K.  |
| 41   |  |  | 65  | M   | 14-11-12   | CAD,TVD,FAIR LV,SR,HTN                                  | CABGX 5 GRAFTS (LIMA-LAD,RSVG-OM1,OM3,D1,PRE-CRUX RCA)                 | Dr. JAYAKUMAR K         |
| 42   |  |  | 64  | M   | 21-11-12   | CAD,TVD,SEV CLAC AS,MOD AR,GOOD LV,SR,DM                | CABG X 3 GRAFTS (RSVG-PDA,OM,D1) + AVR#19 PM                           | Dr. JAYAKUMAR K         |
| 43   |  |  | 65  | M   | 14-11-12   | CAD,TVD,FAIR LV,SR,HTN                                  | CABGX 5 GRAFTS, (LIMA-LAD,RSVG-OM1,OM3,D1,PRE-CRUX RCA)                | Dr. JAYAKUMAR K         |
| 44   |  |  | 44  | M   | 15 – 11-12 | CAD,TVD,OLD AWWMI,MOD LVD,HTN,SR                        | CABG X 5 GRAFTS (LIMA-LAD,RSVG-D1,OM1,OM2 & RPLB)                      | Dr. JAYAKUMAR K         |
| 45   |  |  | 74  | M   | 21-11-12   | CAD,LMCA+TVD,OLD AWWMI,DM,HTN,SR,PVOD                   | CABG X 5 GRAFTS (LIMA-LAD, RSVG-OM1,OM2,D1,RPDA)                       | Dr. JAYAKUMAR K         |

| S.NO |  |  | AGE | SEX | DOS      | DIAGNOSIS  | PROCEDURE  | SURGEON                 |
|------|--|--|-----|-----|----------|--|--|-------------------------|
| 46   |  |  | 67  | M   | 04-12-12 | CAD,DVD,REC UA,GOOD LV,SR,DM,HTN   | CABG X 4 GRAFTS, (LIMA-LAD, RSVG - MJAOR OM,OM3,D1)  | Dr. JAYAKUMAR K         |
| 47   |  |  | 64  | M   | 06-12-12 | CAD, LMCA DISEASE + TVD, OLD IWMI, MOD LVD, DM,HTN,DLP,SR                              | CABG X 5 GRAFTS (LIMA-LAD, RSVG-MAJOR OM, DISTAL OM,D2, ACUTE MARGINAL, ACUTE MARGINAL GRAFT PIGGY BACKED OVER GRAFT TO MAJOR OM)                    | Dr. JAYAKUMAR K         |
| 48   |  |  | 37  | M   | 07-12-12 | SUB ACUTE TYPE A AORTIC DISSECTION, SEV AR, DILATED LV, SEV LVD, MARFANOID HABITUS, SR | SUPRA CORONARY ASCENDING AORTIC REPLACEMENT+ CABG X 1 GRAFT (RSVG-RCA)   | Dr. JAYAKUMAR K         |
| 49   |  |  | 24  | F   | 10-12-12 | ACHD,CS ASD, OS ASD, HAPVC OF LUPV AND LLPV, MILD PAH, GOOD LV,SR                      | ASD CLOSURE + HAPVC REPAIR   | Dr. VIVEK V. PILLAI     |
| 50   |  |  | 41  | F   | 10-12-12 | CAD,DVD,GOOD LV,SR,DM.   | ON PUMP BEATING HEART CABG X 1 GRAFT (LIMA – LAD)  | Dr. JAYAKUMAR K         |
| 51   |  |  | 60  | M   | 12-12-12 | CHRONIC TYPE A AORTIC DISSECTION, HTN, GOO DLV,SR,B/L HYDRONEPHROSIS                   | BENTALL DEBONO PROCEDURE, #23 PM + # 26 ALBO GRAFT   | Dr. JAYAKUMAR K         |
| 52   |  |  | 53  | M   | 27-12-12 | CAD,TVD,GOOD LV,DM,HTN,DLP,SR  | CABG X 4 FRAFTS (LIMA- LAD, RSVG-MAJOR OM, PDA, PLB)   | Dr. JAYAKUMAR K         |
| 53   |  |  | 44  | M   | 01-01-13 | RHD,SEV MS, MILD MR,FAIR LV FUNCTION,AF,CVR, H/O CVA                                   | MVR # 31 SJM + PMLP  | Dr. VARGHESE T.PANICKER |
| 54   |  |  | 52  | M   | 03-01-13 | MVP,SEV MR,GOOD LV,SR,ECTATIC CORONARY   | MV REPAIR, QUADRANGULAR RESECTION OF P1-P2 + #29 TAILOR RING ANNULOPLASTY  | Dr. VIVEK V. PILLAI     |
| 55   |  |  | 56  | M   | 03-01-13 | CAD, LMCA+ TVD,GOOD LV,SR,DM,HTN,DLP   | CABG X 5 GRAFTS (LIMA - LAD, RSVG-MAJ OM, MAJ D,RPDA,RPLB)   | Dr. JAYAKUMAR K         |
| 56   |  |  | 54  | F   | 08-01-13 | CAD,TVD,GOOD LV,SR,DM,HTN  | CABG X 5 GRAFTS (LIMA-LAD, RSVG-MAJOR OM,MAJOR DIAGONAL, LPDA, LPLB, SEQUEBTIAL GRAFT FOR LPDA & LPLB, OM GRAFT PIGGYBACKED TO SEQUENTIAL LPDA GRAFT | Dr. JAYAKUMAR K         |

| S.NO | HNO | NAME | AGE | SEX | DOS      | DIAGNOSIS   | PROCEDURE  | SURGEON                |
|------|-----|------|-----|-----|----------|---|--|------------------------|
| 57   |     |      | 38  | M   | 08-01-13 | RHD,SEC AS,GOOD LV,SR,NC  | AVR #21 CHVP   | Dr. VIVEK V. PILLAI    |
| 58   |     |      | 56  | M   | 10-01-13 | CAD, TVD,GOOD LV,DM,DLP,SR                                      | CABG X 5 GRAFTS (LIMA - LAD, RSVG- D1,D2,MJAOR OM, PRE CRUX RCA) | Dr. JAYAKUMAR K        |
| 59   |     |      | 53  | M   | 31-01-13 | CAD, LMCA+TVD, GOOD LV,SR                                       | CABG X 4 GRAFTS (LIMA - LAD, RSVG- OM, RI, PDA)                  | Dr. PRAVEEN VARMA P.K. |
| 60   |     |      | 77  | M   | 04-02-13 | CAD, LMCA + TVD, GOOD LV, DM, HTN                               | CABG X 4 GRAFTS (LIMA - LAD, RSVG- OM, RI, PDA)                  | Dr. JAYAKUMAR K        |
| 61   |     |      | 68  | M   | 04-02-13 | CAD,LMCA+TVD, GOOD LV,DM,HTN,DLP,SR                             | CABG X 3 GRAFTS, LIMA-LAD, RSVG - OM,DISTAL RCA                  | Dr. JAYAKUMAR K        |
| 62   |     |      | 42  | M   | 07-02-13 | ACHD, SV- ASD, PAPVC OF RUPV AND RMPV, MILD PAH, GOOD LV,SR,NC  | ASD CLOSURE WITH PAPVC REROUTING                                 | Dr. BINEESH K. R.      |
| 63   |     |      | 49  | M   | 07-02-13 | SEV CAL AS, MILD AR,MILD MR,CAD,DVD,CHB                         | CABGX 2 GRAFTS + AVR # 19CHVP                                    | Dr. VIVEK V. PILLAI    |
| 64   |     |      | 49  | M   | 07-02-13 | CAD, TVD, GOOD LV FUNCTION,DM,HTN,DLP,SR                        | CABG X 4 GRAFTS (LIMA- LAD, RSVG - OM, PDA,D3)                   | Dr. JAYAKUMAR K        |
| 65   |     |      | 59  | M   | 17-02-13 | CAD, TVD,GOOD LV, DM,HTN, DLP,SR                                | CABG X 6 GRAFTS (LIMA - LAD, RSVG - D1, D2, MAJOR OM, RI, PDA)   | Dr. JAYAKUMAR K        |
| 66   |     |      | 54  | M   | 19-02-13 | CAD, TVD,GOOD LV, DM,HTN, DLP,SR                                | CABG X 5 GRAFTS (LIMA - LAD, RSVG - D1, D2, RI, PDA)             | Dr. JAYAKUMAR K        |
| 67   |     |      | 13  | M   | 19-02-13 | ACHD, OS ASD, GOOD LV, MILD PAH,SR                              | TPP CLOSURE OF OS ASD  | Dr. BINEESH K. R.      |
| 68   |     |      | 68  | M   | 20-02-13 | CAD, TVD, GOOD LV,DM, HTN, DLP, SR                              | CABG X 4 GRAFTS (LIMA - LAD, RSVG - TERMINAL OM, RI, RPDA)       | Dr. JAYAKUMAR K        |
| 69   |     |      | 62  | M   | 20-02-13 | CAD, DVD, GOOD LV, DM, HTN, DLP, ACHALASIA CARDIA               | CABG X 3 GRAFTS (LIMA - LAD, RSVG - MAJOR OM, D-1) + GASTROSCOPY | Dr. JAYAKUMAR K        |
| 70   |     |      | 65  | M   | 22-02-13 | SEV CALC AS, MILD AR, GOOD LV, CAD-SVD, DLP                     | AVR #21 PM + CABG X 1 GRAFT (LIMA – LAD)                         | Dr. PRAVEEN VARMA P.K. |
| 71   |     |      | 62  | M   | 25-02-13 | P/AVR #19 PM- MAGNA + CABG X 3 GRAFTS WITH MEDIASTINAL BLEEDING | RE - EXPLORATION   | Dr. PRAVEEN VARMA P.K. |

| S.NO | HNO  | NAME       | AGE | SEX | DOS      | DIAGNOSIS   | PROCEDURE  | SURGEON                 |
|------|------|------------|-----|-----|----------|---|--|-------------------------|
| 72   | ████ | ██████████ | 55  | M   | 05-03-13 | CAD, DVD, GOOD LV, DM, HTN, DLP,VV+                   | CABG X 3 GRAFTS, (LIMA- SEQUENTIALLY GRAFTED TO LAD AND D1, RSVG- DISTAL RCA)          | Dr. JAYAKUMAR K         |
| 73   | ████ | ██████████ | 51  | M   | 05-03-13 | CAD, TVD, GOOD LV, MILD AR, SR                        | CABG X 4 GRAFTS (LIMA - LAD, RSVG - TERMINAL OM, RI, RPDA)                             | Dr. VIVEK V. PILLAI     |
| 74   | ████ | ██████████ | 30  | F   | 06-03-13 | BAV, SEV CALC AS, SEV AR, GOOD LV, RECENT CCF, SR     | AVR # 20 MHVP  | Dr. VIVEK V. PILLAI     |
| 75   | ████ | ██████████ | 47  | M   | 06-03-13 | RHD, SEV MS, MOD MR, MILD PAH, GOOD LV, AF,NC         | MVR # 29 SJM + PMLP+ LA CLOT REMOVAL   | Dr. VARGHESE T.PANICKER |
| 76   | ████ | ██████████ | 59  | M   | 08-03-13 | CAD, TVD, GOOD LV, DM, DLP, SR, B/L VV                | CABG X 4 GRAFTS (LIMA - LAD, RSVG -TERMINAL OM, D1, RPDA)                              | Dr. JAYAKUMAR K         |
| 77   | ████ | ██████████ | 59  | M   | 08-03-13 | P/ CABG WITH DSWI                                     | WOUND DEBRIDEMENT + ROBICSEK STERNAL RE WIRING   | Dr. BINEESH K. R.       |
| 78   | ████ | ██████████ | 0   | M   | 10-03-13 | ACUTE AORTIC DISSECTION TYPE-A, SEV AR, GOOD LV       | SUPRA CORONARY ASCENDING AORTIC REPLACEMENT # 30 ALBO GRAFT + AV RESUSPENSION          | Dr. JAYAKUMAR K         |
| 79   | ████ | ██████████ | 54  | M   | 12-03-13 | CAD, TVD, GOOD LV, DM,HTN, DLP,SR                     | CABG X 3 GRAFTS (LIMA - LAD, RSVG - RPDA, RPLB)  | Dr. VIVEK V. PILLAI     |
| 80   | ████ | ██████████ | 60  | F   | 12-03-13 | CAD, TVD, GOOD LV, DM, HTN,DLP,SR                     | CABG X 5 GRAFTS (LIMA - LAD, RSVG - MAJ OM, MAJ D, TERM OM, RPDA)                      | Dr. JAYAKUMAR K         |
| 81   | ████ | ██████████ | 58  | M   | 14-03-13 | CAD, TVD, P/PCI, MILD LVD, DM,HTN,DLP,SR, HYPOTHYROID | CABG X 5 GRAFTS (LIMA - LAD, RSVG - MAJ OM, MAJ D, RPDA, LPLB)                         | Dr. JAYAKUMAR K         |
| 82   | ████ | ██████████ | 38  | F   | 19-03-13 | ACHD, OS ASD, MILD PAH, GOOD LV, SR, HBSAG+           | TPP CLOSURE OF OS ASD  | Dr. BINEESH K. R.       |
| 83   | ████ | ██████████ | 59  | M   | 19-03-13 | CAD, TVD, GOOD LV, DM, HTN, DLP, SR.                  | CABG X 4 GRAFTS (LIMA- LAD, RSVG - MAJ OM, DIAGONAL-3,RPDA)                            | Dr. JAYAKUMAR K         |
| 84   | ████ | ██████████ | 57  | F   | 21-03-13 | RHD, SEV MS, MOD MR, MILD PAH, GOOD LV,AF,NC          | MVR # 29 CHVP + PMLP   | Dr. VARGHESE T.PANICKER |
| 85   | ████ | ██████████ | 57  | M   | 22-03-13 | CAD, TVD, GOOD LV, HTN, DLP,SR, PSORIASIS, VV         | CABG X 3 GRAFTS (LIMA - LAD, RSVG - RPDA & RPLB. RSVG GRAFT PIGGY BACKED TO PLB GRAFT) | Dr. JAYAKUMAR K         |

| S.NO | HNO    | NAME       | AGE | SEX | DOS      | DIAGNOSIS   | PROCEDURE   | SURGEON                 |
|------|--------|------------|-----|-----|----------|---|---|-------------------------|
| 86   | ██████ | ██████████ | 56  | M   | 01-04-13 | CAD, TVD, OLD AWMI, GOOD LV,SR,HTN,DM,DLP,SR                                    | CABG X 4 GRAFTS (LIMA- LAD, RSVG - MAJ D, DISTAL PDA, OM-2)                                   | Dr. JAYAKUMAR K         |
| 87   | ██████ | ██████     | 44  | F   | 02-04-13 | RHD, SEV CALC MS, MOD MR, GOOD LV, MOD PAH, SR, NC                              | MVR #29 CHVP  | Dr. VIVEK V. PILLAI     |
| 88   | ██████ | ██████████ | 48  | M   | 02-04-13 | RHD,P/BMV,SEV RE-MS,SEV MR,MILD TR,MILD-MOD PAH,ASD,GD LV,AF,NC ,OLD RT MCA TIA | MVR #25 SJM + PMLP + DIRECT CLOSURE OF ASD  | Dr. VARGHESE T.PANICKER |
| 89   | ██████ | ██████████ | 64  | M   | 03-04-13 | CAD,TVD, GOOD LV , DM,HTN,DLP,PVOD,SR   | CABG X 5 GRAFTS (LIMA- LAD, RSVG - D1,D2, RI AND RPDA)  | Dr. JAYAKUMAR K         |
| 90   | ██████ | ██████     | 46  | M   | 03-04-13 | BAV SEV AR MILD AS MOD LV DYSFUNCTION, NC,SR                                    | AVR #23CHVP   | Dr. VIVEK V. PILLAI     |
| 91   | ██████ | ██████████ | 50  | M   | 04-04-13 | CAD, TVD, GD LV, DM, HTN, SR  | CABG X 4 GRAFT- (LIMA- LAD RSVG - MAJ. D, OM2, PDA.)  | Dr. JAYAKUMAR K         |
| 92   | ██████ | ██████████ | 56  | M   | 05-04-13 | CAD,TVD, SEV CALC AS, SEV LVD, HTN, DLP, SR, BRONCHIAL ASTHMA                   | AVR#21 CHVP + CABG X 4 GRAFTS (LIMA-LAD, RSVG-OM1, D1, RPDA) + LINEAR PPLICATION OF LV APEX.  | Dr. JAYAKUMAR K         |
| 93   | ██████ | ██████████ | 57  | M   | 05-04-13 | CAD, LMCA+TVD, SEV LVD,SR   | CABG X 6 GRAFTS (LIMA- LAD, RSVG-MAJ D, RI, MAJ OM, TERM OM, PDA)                             | Dr. JAYAKUMAR K         |
| 94   | ██████ | ██████     | 39  | F   | 15-04-13 | RHD, SEV MR, MOD MS, MILD PAH, GOOD LV,SR                                       | MVR # 29 CHVP   | Dr. VIVEK V. PILLAI     |
| 95   | ██████ | ██████████ | 53  | M   | 15-04-13 | CAD, TVD, P/PCI-RCA, OLD IWMI, SEV LVD, DM, HTN, DLP,SR,BA                      | CABG X 5 GRAFTS (LIMA - LAD, RSVG - OM3, MAJ D, LPLB, AM, AM GRAFT PIGGYBACKED TO LPLB GRAFT) | Dr. JAYAKUMAR K         |
| 96   | ██████ | ██████████ | 53  | F   | 16-04-13 | MVP,SEV MR,DILATED LV,MOD PAH,AF,NC,S/P THYROIDECTOMY                           | MVR #29 CHVP  | Dr. VIVEK V. PILLAI     |
| 97   | ██████ | ██████████ | 59  | M   | 16-04-13 | CAD, TVD, OLD MI, GOOD LV, HTN, DLP, SR   | CABG X 6 GRAFTS (LIMA - LAD, RSVG - D, RI, TERM OM, RPDA, RPLB)                               | Dr. JAYAKUMAR K         |
| 98   | ██████ | ██████████ | 51  | M   | 18-04-13 | CAD, LMCA + TVD, GOOD LV, DM,HTN, DLP, SR.                                      | CABG X 5 GRAFTS (LIMA - LAD, RSVG - D, RI, OM, RPDA)  | Dr. JAYAKUMAR K         |
| 99   | ██████ | ██████████ | 51  | M   | 18-04-13 | P/CABG WITH MEDIASTINAL BLEEDING  | RE-EXPLORATION  | Dr. JAYAKUMAR K         |

| S.NO | HNO    | NAME           | AGE | SEX | DOS      | DIAGNOSIS  | PROCEDURE   | SURGEON                 |
|------|--------|----------------|-----|-----|----------|--|---|-------------------------|
| 100  | ██████ | ██████         | 45  | M   | 21-04-13 | RUPTURED INFECTED PSEUDO ANEURYSM, S/P DCRV REPAIR ,SEV TR, MILD MR, GDLV ,AF  | PSEUDO ANEURYSM REPAIR  | Dr. VIVEK V. PILLAI     |
| 101  | ██████ | ██████         | 61  | M   | 22-04-13 | CAD, TVD, GOOD LV, DM, HTN, DLP, SR , COPD                                     | OP-CABG X 2 GRAFTS (LIMA - LAD, RSVG - MAJ D)   | Dr. JAYAKUMAR K         |
| 102  | ██████ | ██████         | 18  | M   | 23-04-13 | ACHD, SV- ASD, PAPVC OF RUPV AND RMPV, GOOD LV                                 | SV ASD CLOSURE + PAPVC REROUTING  | Dr. VARGHESE T.PANICKER |
| 103  | ██████ | ██████████████ | 74  | M   | 23-04-13 | CAD, TVD, GOOD LV, DM, HTN, DLP, SR  | CABG X 3 GRAFTS (LIMA - LAD, RSVG - MAJ OM, RPDA)   | Dr. JAYAKUMAR K         |
| 104  | ██████ | ██████         | 72  | M   | 24-04-13 | CAD, TVD, GOOD LV,DM,HTN, DLP,SR, LEFT SUBCLAVIAN STENOSIS                     | CABG X 5 GRAFTS (RSVG - LAD, RI, MAJ OM, TERM OM, DISTAL RCA, TERM OM GRAFT PIGGY BACKED TO MAJ OM GRAFT) | Dr. JAYAKUMAR K         |
| 105  | ██████ | ██████         | 58  | M   | 25-04-13 | CAD, TVD, GOOD LV, DM, HTN, DLP, SR  | CABG X 4 GRAFTS (LIMA - LAD, RSVG - MAJ D, MAJ OM, RPDA)  | Dr. JAYAKUMAR K         |
| 106  | ██████ | ██████         | 58  | M   | 25-04-13 | P/CABG WITH MEDIASTINAL BLEEDING   | RE-EXPLORATION  | Dr. VIVEK V. PILLAI     |
| 107  | ██████ | ██████         | 53  | M   | 26-04-13 | CAD, TVD, GOOD LV,HTN, DLP, SR   | CABG X 5 GRAFTS (LIMA - LAD, RSVG - MAJ D, MAJ OM, RPDA, RPLB)  | Dr. JAYAKUMAR K         |
| 108  | ██████ | ██████         | 68  | M   | 26-04-13 | CAD,LMCA + TVD, GOOD LV, DM, HTN, DLP, SR                                      | CABG X 6 GRAFTS (LIMA - MID LAD, RSVG - DISTAL LAD, RSVG - MAJ D,OM-1, OM-2, RPDA)                        | Dr. JAYAKUMAR K         |
| 109  | ██████ | ██████         | 28  | F   | 06-05-13 | RHD,SEV MS,MILD MR/AR/PAH,GD LV,SR P/BMV, SEV MR                               | MVR #25 SJM   | Dr. VARGHESE T.PANICKER |
| 110  | ██████ | ██████████████ | 70  | M   | 06-05-13 | CAD, LMCA+TVD, MOD - SEV LVDYSFUNCTION, DM,HTN, DLP,SR                         | CABG X 3 GRAFTS (RSVG - LAD, MAJ D, RCA, MAJ D GRAFT PIGGYBACKED TO RCA + STENTED STERNUM)                | Dr. PRAVEEN VARMA P.K.  |
| 111  | ██████ | ██████         | 69  | F   | 06-05-13 | SEV CALC AS, (VALV + INFRA VALVAR), MOD AR, MILD MR, GOOD LV, HTN,SR, MILD CAD | AVR # 19 PM + SEPTAL MYECTOMY   | Dr. VARGHESE T.PANICKER |
| 112  | ██████ | ██████████████ | 70  | M   | 08-05-13 | P/ CABG WITH STENTED STERNUM   | DELAYED STERNAL CLOSURE   | Dr. PRAVEEN VARMA P.K.  |

| S.NO | HNO  | NAME       | AGE | SEX | DOS      | DIAGNOSIS  | PROCEDURE  | SURGEON                 |
|------|------|------------|-----|-----|----------|--|--|-------------------------|
| 113  | ████ | ██████████ | 23  | M   | 07-05-13 | ACHD, SV-ASD(SVC TYPE), PAPVC OF RUPV, B/L SVC, CHIARI MAALFORMATION | SV-ASD CLOSURE + PAPVC REROUTING (DOUBLE PATCH REPAIR)   | Dr. BINEESH K. R.       |
| 114  | ████ | ██████████ | 59  | M   | 08-05-13 | CAD,LMCA + TVD, SEV LVD,SR,DM,DLP                                    | CABGX 4 GRAFT (LIMA -LAD, RSVG-D, OM, PDA)   | Dr. PRAVEEN VARMA P.K.  |
| 115  | ████ | ██████████ | 69  | M   | 08-05-13 | CAD,TVD,MILD AS,GDLV,SR,DM,HTN,DLP                                   | CABG X 4 GRAFT (LIMA-LAD,MAJ OM, PDA, LPLB)  | Dr. PRAVEEN VARMA P.K.  |
| 116  | ████ | ██████████ | 60  | F   | 09-05-13 | RHD, P/CMV- SEV RE MS, MILD MR, GOOD LV, DM,HTN, DLP, SR,NC          | MVR # 27 SJM   | Dr. VARGHESE T.PANICKER |
| 117  | ████ | ██████████ | 48  | M   | 20-05-13 | CAD,TVD,REC IWMI, MOD LVDYSFUNCTION,HTN,DLP,SR                       | CABG X 6 GRAAFTS (LIMA- LAD, RSVG - MAJ D, MAJ OM,RPDA,RPLB,AACUTE MARGINAL) + ENDARTERECTOMY OF MAJ D, LINEAR PLICATION OF IW | Dr. JAYAKUMAR K         |
| 118  | ████ | ██████████ | 69  | M   | 21-05-13 | CAD,TVD,GOOD LV,DM,HTN,DLP,SR,STRICTURE URETHRA                      | CABG X 6 GRAFTS (LIMA -LAD, RSVG-MAJ D,OM1,TERM OM,RPDA,RPLB)  | Dr. JAYAKUMAR K         |
| 119  | ████ | ██████████ | 82  | M   | 22-05-13 | CAD,TVD,GOOD LV,HTN,DLP,SR   | CABG X 3 GRAFTS (LIMA - LAD, RSVG - OM2 AND PRE CRUX RCA)  | Dr. JAYAKUMAR K         |
| 120  | ████ | ██████     | 68  | F   | 23-05-13 | CAD, DVD, ACHD,OS ASD, GOOD LV,MILD PAH,SR,HTN,DLP                   | ASD CLOSURE + CABG X 2 GRAFTS, (LIMA - LAD,RSVG - OM1)   | Dr. JAYAKUMAR K         |
| 121  | ████ | ██████████ | 4   | F   | 10-06-13 | ACHD, SV-ASD, PAPVC OF RUPV,MILD PAH,B/L SVC,GOOD LV,SR              | SV-ASD CLOSURE + RE-ROUTING OF PAPVC (DOUBLE PATCH METHOD)   | Dr. THOMAS MATHEW       |
| 122  | ████ | ██████████ | 0   | F   | 11-06-13 | P/CENTRAL SHUNT FOR TOF WITH PA - STENTED STERNUM                    | DELAYED STERNAL CLOSURE  | Dr. SABARINATH MENON    |
| 123  | ████ | ██████     | 12  | M   | 11-06-13 | P/SV ASD CLSOURE WITH PERICARDIAL EFFUSION                           | OPEN PERICARDIAL DRAINAGE  | Dr. THOMAS MATHEW       |
| 124  | ████ | ██████████ | 0   | M   | 12-06-13 | CCHD, PA, VSD,D-TGA DTA DISSECTION POST ATTEMPTED PDA STENTING       | RMBTS #3MM PTFE GRAFT  | Dr. BAIJU S.DHARAN      |
| 125  | ████ | ██████████ | 9   | F   | 13-06-13 | CCHD, TA, VSD, P/ BDG  | EXTRA CARDIAC FENESTRATED FONTAN   | Dr. BAIJU S.DHARAN      |

| S.NO | HNO  | NAME       | AGE | SEX | DOS      | DIAGNOSIS  | PROCEDURE                                   | SURGEON              |
|------|------|------------|-----|-----|----------|--|---|----------------------|
| 126  | ████ | ██████████ | 1   | M   | 13-06-13 | MITRAL ATRESIA,D-TGA,DILV,SEV PAH,S/P BAS(L->R),SEIZURES                         | PA BANDING 24 MM                            | Dr. THOMAS MATHEW    |
| 127  | ████ | ██████████ | 1   | F   | 17-06-13 | CCHD,PA, VSD,L-TGA,OS ASD,SPELL,SR   | RMBTS #4MM PTFE GRAFT                       | Dr. SABARINATH MENON |
| 128  | ████ | ██████████ | 3   | M   | 18-06-13 | CCHD, TOF, GOOD PA, OS ASD, NC,SR  | ICR + TAP+ MONOCUSP RECONSTRUCTION OF RVOT  | Dr. SABARINATH MENON |
| 129  | ████ | ██████████ | 8   | F   | 20-06-13 | SA VSD, SEV INF PS,SR  | ICR   | Dr. SABARINATH MENON |
| 130  | ████ | ██████████ | 0   | M   | 20-06-13 | ACHD, PM VSD, SEV PAH, GOOD LV,SR  | VSD CLOSURE                                 | Dr. BAIJU S.DHARAN   |
| 131  | ████ | ██████████ | 2   | M   | 21-06-13 | CCHD, D-TGA, RESTRICTIVE SUBPULMONIC VSD, ADDITIONAL MUSCULAR VSD, SEVERE PS, SR | RMBTS #5MM PTFE+ ATRIAL SEPTECTOMY          | Dr. BAIJU S.DHARAN   |
| 132  | ████ | ██████████ | 3   | F   | 25-06-13 | ACHD, SA VSD,RCC PROLAPSE MOD AR, GOOD LV,SR                                     | VSD COSURE (GORETEX PATCH) + AV REPAIR      | Dr. SABARINATH MENON |
| 133  | ████ | ██████████ | 1   | F   | 03-07-13 | CCHD, SC- TAPVC, MOD RV DYSFUNCTION  | TAPVC REPAIR                                | Dr. THOMAS MATHEW    |
| 134  | ████ | ██████████ | 9   | F   | 04-07-13 | CCHD,S/P RMBTS(2006), DTGA,OUTLET VSD,SEV PS,NC,SR                               | RMBTS TAKEDOWN+BDGS.                        | Dr. BAIJU S.DHARAN   |
| 135  | ████ | ██████████ | 1   | F   | 05-07-13 | ACHD, SP-VSD, STRETCHED PFO, MILD PAH,SR   | GP CLOSURE OF VSD + PFO CLOSURE             | Dr. SABARINATH MENON |
| 136  | ████ | ██████████ | 0   | F   | 06-07-13 | CCHD, IC – TAPVC, MODERATE RV DYSFUNCTION,SR                                     | TAPVC REPAIR                                | Dr. SABARINATH MENON |
| 137  | ████ | ██████████ | 0   | M   | 08-07-13 | P/ASO FOR TGA,IVS, REGRESSED LV WITH STENTED STERNUM                             | DSC   | Dr. THOMAS MATHEW    |
| 138  | ████ | ██████████ | 0   | M   | 08-07-13 | CCHD, TOF, GOOD PA, SR   | ICR + TAP + MONOCUSP RECONSTRUCTION OF RVOT | Dr. BAIJU.S.DHARAN   |
| 139  | ████ | ██████████ | 0   | M   | 08-07-13 | DTGA, IVS, P/BAS,SR  | ASO   | Dr. SABARINATH MENON |
| 140  | ████ | ██████████ | 2   | F   | 09-07-13 | PA,IVS,TV HYPOPLASIA, RV DEPENDENT CORONARY CIRCULATION                          | BDG + ATRIAL SEPTECTOMY                     | Dr. SABARINATH MENON |

| S.NO | HNO  | NAME       | AGE | SEX | DOS      | DIAGNOSIS   | PROCEDURE   | SURGEON                 |
|------|------|------------|-----|-----|----------|---|---|-------------------------|
| 141  | ████ | ██████████ | 0   | M   | 30-07-13 | P/TAPVC REPAIR WITH STENTED STERNUM   | DELAYED STERNAL CLOSURE   | Dr. THOMAS MATHEW       |
| 142  | ████ | ██████████ | 5   | F   | 31-07-13 | ACHD, SV-ASD(SVC TYPE), MILD PAH,SR   | WARDEN PROCEDURE  | Dr. SABARINATH MENON    |
| 143  | ████ | ██████████ | 2   | F   | 01-08-13 | CCHD, C-AVCD, RASTELLI TYPE-C, SEV INF PS, SPELL,SR                             | ICR + INF RESECTION + RVOT PATCH.   | Dr. BAIJU S.DHARAN      |
| 144  | ████ | ██████████ | 0   | F   | 05-08-13 | CCHD, TA, RESTRICTIVE VSD, SMALL ASD, SEV PS, SR                                | MODIFIED MELBOURNE SHUNT # 3.5MM PTFE TUBE GRAFT                                | Dr. BAIJU S.DHARAN      |
| 145  | ████ | ██████████ | 3   | F   | 05-08-13 | ACHD, OS ASD, GOOD LV,SR  | ASD CLOSURE - MINISTERNOTOMY APPROACH.  | Dr. THOMAS MATHEW       |
| 146  | ████ | ██████████ | 1   | M   | 12-08-13 | CCHD, D-TGA, SP-VSD, POST SUBCLAVIAN COA, 1LCX2R, MILD RPA STENOSIS, GOOD LV,SR | ASO + VSD CLOSURE + ARCH REPAIR   | Dr. BAIJU S.DHARAN      |
| 147  | ████ | ██████████ | 1   | M   | 13-08-13 | P/ASO WITH STENTED STERNUM  | DSC   | Dr. THOMAS MATHEW       |
| 148  | ████ | ██████████ | 1   | F   | 13-08-13 | ACHD, SA-VSD, LARGE PDA, FENESTRATION IN IAS, SEV PAH,SR                        | VSD CLOSURE(BPP) + PDA INTERRUPTION + FENESTRATION CLOSURE                      | Dr. BAIJU S.DHARAN      |
| 149  | ████ | ██████████ | 1   | F   | 14-08-13 | CCHD, D-TGA, IVS, S/P BAS, REGRESSED LV, 1LCX2R, SR                             | ASO   | Dr. BAIJU S.DHARAN      |
| 150  | ████ | ██████████ | 5   | F   | 16-08-13 | CCHD, TA, SA-VSD, SEV PS, UNRESTRICTIVE ASD, SR                                 | BDG   | Dr. THOMAS MATHEW       |
| 151  | ████ | ██████████ | 0   | M   | 20-08-13 | ACHD, ALCAPA, P/ALCAPA REPAIR + STENTED STERNUM                                 | DSC   | Dr. THOMAS MATHEW       |
| 152  | ████ | ██████████ | 4   | M   | 21-08-13 | ACHD, SP-VSD, GOOD LV,SR  | GORETEX PATCH CLOSURE OF SP-VSD   | Dr. ANANTHANARAYANAN C. |
| 153  | ████ | ██████████ | 0   | M   | 22-08-13 | CCHD, DC, SV, SINGLE AVV, COMMON ATRIUM, PULMONARY ATRESIA. TPAVC.              | PDA STENT RETRIEVAL + ATTEMPTED B/L BDG F/B TAKE DOWN OF GLEN + MELBOURNE SHUNT | Dr. BAIJU S.DHARAN      |
| 154  | ████ | ██████████ | 0   | F   | 23-08-13 | CCHD, IC – TAPVC, MODERTAE RV DYSFUNCTION                                       | TAPVC REPAIR  | Dr. SABARINATH MENON    |

| S.NO | HNO    | NAME           | AGE | SEX | DOS      | DIAGNOSIS  | PROCEDURE   | SURGEON                 |
|------|--------|----------------|-----|-----|----------|--|---|-------------------------|
| 155  | ██████ | ██████████████ | 1   | M   | 23-08-13 | ACHD, DOUBLY COMMITTED VSD, SEV PAH, GOOD LV, PNEUMONIA, SR                  | TPP CLOSURE OF DOUBLY COMMITTED VSD   | Dr. THOMAS MATHEW       |
| 156  | ██████ | ██████████     | 23  | M   | 26-08-13 | ACHD, SA-VSD, MOD INFUNDIBULAR PS, SR  | TRANS RA ICR  | Dr. THOMAS MATHEW       |
| 157  | ██████ | ██████████     | 3   | M   | 27-08-13 | ACHD, MAL ALIGNED SA VSD, INFUNDIBULAR+ VALVAR PS, SR                        | TRANS RA ICR + MPA PLASTY   | Dr. THOMAS MATHEW       |
| 158  | ██████ | ██████████████ | 1   | M   | 29-08-13 | CCHD, D-TGA, INFLOW VSD, JUXTAPOSED AA, SEV PS. LPA ORIGN STENOSIS           | B/L BDG + ATRIAL SEPTECTOMY   | Dr. SABARINATH MENON    |
| 159  | ██████ | ██████████████ | 69  | M   | 02-09-13 | CAD, TVD, GOOD LV, DM, HTN, DLP, HYPOTHYROID,SR                              | CABG X 4 GRAFTS (LIMA- LAD, RSVG - RI, TERMINAL OM, RPDA)                                     | Dr. JAYAKUMAR K         |
| 160  | ██████ | ██████████████ | 65  | M   | 03-09-13 | CAD, TVD, H/O AAWMI, LV APICAL ANEURYSM, SEV LV DYSFUNCTION, DM, HTN, DLP,SR | DOR PROCEDURE + CABG X 4 GRAFTS, (LIMA - LAD, RSVG - MAJOR OM, D1, RPDA)                      | Dr. JAYAKUMAR K         |
| 161  | ██████ | ██████████████ | 78  | M   | 04-09-13 | CAD, TVD, H/O MI, SEV LV DYSFUNCTION, SR, PVOD                               | CABG X 3 GRAFTS (LIMA - LAD, RSVG - TERM OM, RPDA)  | Dr. JAYAKUMAR K         |
| 162  | ██████ | ██████████████ | 45  | F   | 05-09-13 | ASCENDING AORTIC ANEURYSM, SEV AR, MODERATE LV DYSFUNCTION, MILD CAD, SR     | BENTALL DE BONO PROCEDURE AVR # 23 CHVP, # 24 ALBOGRAFT                                       | Dr. JAYAKUMAR K         |
| 163  | ██████ | ██████████████ | 72  | M   | 06-09-13 | SEV CALCIFIC AS, GOOD LV FUNCTION, MILD AR, MILD CAD, COPD, HTN,SR           | AVR #21 PM  | Dr. PRAVEEN VARMA P.K.  |
| 164  | ██████ | ██████████████ | 60  | F   | 10-09-13 | CAD, TVD, GOOD LV FUNCTION, DM, HTN, DLP, RIGHT RENAL ARTERY STENOSIS        | CABG X 4 GRAFTS (LIMA - LAD, RSVG - MAJ OM, RPDA, DIAGONAL)                                   | Dr. JAYAKUMAR K         |
| 165  | ██████ | ██████████████ | 53  | F   | 11-09-13 | CAD, TVD, H/O MI, FAIR LV FUNCTION, HTN, DLP,SR                              | CABG X 4 GRAFTS (LIMA- LAD, RSVG - DIGONAL3, TERMINAL OM, RPDA) + LINEAR PLICATION OF LV APEX | Dr. JAYAKUMAR K         |
| 166  | ██████ | ██████████     | 56  | M   | 12-09-13 | SEV CAL AS, GDLV, SR, NC   | AVR #21 PM  | Dr. VARGHESE T.PANICKER |
| 167  | ██████ | ██████████████ | 54  | M   | 13-09-13 | SEV AR, MOD PAH, FAIR LV FUNCTION, DM, SR, NC                                | AVR #25 MHVP  | Dr. VIVEK V. PILLAI     |

| S.NO | HNO  | NAME       | AGE | SEX | DOS      | DIAGNOSIS   | PROCEDURE  | SURGEON                 |
|------|------|------------|-----|-----|----------|---|--|-------------------------|
| 168  | ████ | ██████████ | 54  | M   | 18-09-13 | CAD, TVD, H/O MI, UA, GOOD LV, MILD MR, DM,HTN, DLP,SR                              | CABG X 5 GRAFTS (LIMA- LAD, RSVG- MAJ D, MO2, TERMINAL OM, LPDA)   | Dr. VIVEK V. PILLAI     |
| 169  | ████ | ██████████ | 49  | F   | 19-09-13 | CAD, TVD, GOOD LV, HTN, SR  | CABG X 4 GRAFTS (LIMA - LAD, RSVG - OM2, D2, RPDA)   | Dr. JAYAKUMAR K         |
| 170  | ████ | ██████████ | 54  | F   | 20-09-13 | CAD, TVD, GOOD LV, HTN, DLP, HBSAG+   | CABG X 4 GRAFTS (LIMA - LAD, RSVG - MAJ OM, MAJ DIAGONAL, RCA)   | Dr. JAYAKUMAR K         |
| 171  | ████ | ██████████ | 78  | M   | 27-09-13 | CAD, TVD, GOOD LV,HTN,SR  | CABG X 4 GRAFTS (LIMA - LAD, RSVG - MAJ D, OM2, RPDA, OM2 GRAFT PIGGYBACKED TO DIAGONAL GRAFT)                         | Dr. JAYAKUMAR K         |
| 172  | ████ | ██████████ | 45  | M   | 30-09-13 | CAD, TVD, GOOD LV, DM, HTN, DLP, SR   | CABG X 5 GRAFTS (LIMA - LAD, RSVG - OM1, OM2, PROXIMAL AND DISTAL RPDA + LAD ENDARTERECTOMY + VEIN PATCH AUGMENTATION) | Dr. JAYAKUMAR K         |
| 173  | ████ | ██████████ | 59  | M   | 30-09-13 | CAD, DVD, MOD LV DYSFUNCTION, HTN, SR   | OP- CABG X 2 GRAFTS (LIMA - LAD, RSVG – RI)  | Dr. JAYAKUMAR K         |
| 174  | ████ | ██████████ | 49  | M   | 04-10-13 | CAD,LMCA+TVD,GDLV,SR,HTN, DLP   | CABG X 4 GRAFTS (LIMA - LAD, RSVG - MAJ OM, DIAGONAL2, PRE CRUX RCA)   | Dr. VIVEK V. PILLAI     |
| 175  | ████ | ██████████ | 14  | F   | 07-10-13 | ACHD,SVASD,PAPVC OF RUPV- SVC-RA JN,MILD PAH,PFO,SR                                 | SV ASD CLOSURE + PAPVC REROUTING   | Dr. VARGHESE T.PANICKER |
| 176  | ████ | ██████████ | 36  | F   | 07-10-13 | RHD, SEV MR, SEV AR, MILD AS, MOD PAH,AF  | DVR, MVR#27 SJM + PMLP, AVR#19SJM  | Dr. VARGHESE T.PANICKER |
| 177  | ████ | ██████████ | 62  | F   | 08-10-13 | RHD, SEV MS, MOD MR, MOD PAH, GOOD LV, DM,HTN, DLP, AF,NC                           | MVR #25 SJM  | Dr. VARGHESE T.PANICKER |
| 178  | ████ | ██████████ | 52  | F   | 08-10-13 | BAV, SEV CALCIFIC AS, MILD AR, MILD PAH, GOOD LV FUNCTION, NC, SR                   | AVR # 17 CHVP  | Dr. VARGHESE T.PANICKER |
| 179  | ████ | ██████████ | 51  | F   | 09-10-13 | RHD, SEV MS, MILD MR, MOD AS, MILD AR, MILD TR, MOD PAH, GOOD LV, PAROXYSMAL AF, NC | DVR, MVR#25 SJM , AVR #17CHVP  | Dr. VARGHESE T.PANICKER |

| S.NO | HNO    | NAME                     | AGE | SEX | DOS      | DIAGNOSIS  | PROCEDURE   | SURGEON                 |
|------|--------|--------------------------|-----|-----|----------|--|---|-------------------------|
| 180  | ██████ | ██████████               | 45  | F   | 10-10-13 | CCHD, EBSTEIN ANOMALY OF TV, SEV TR, GOOD LV, AF, NC                                 | ONE AND ONE HALF VENTRICLE REPAIR ( CONE REPAIR OF TV + TVA(#32 MC3 RING) + ASD CLOSURE + BDG)          | Dr. BAIJU S.DHARAN      |
| 181  | ██████ | ██████████               | 43  | F   | 10-10-13 | BAV,SEV CAL AS,SEV AR,MOD MR,SR,NC,SEIZURE DISORDER                                  | AVR#19 PM   | Dr. VARGHESE T.PANICKER |
| 182  | ██████ | ██████████               | 26  | M   | 10-10-13 | ACHD,OS ASD,MILD PAH,SR  | TPP CLOSURE OF OS ASD   | Dr.GEORGE J VALOORAN    |
| 183  | ██████ | ██████████████████       | 52  | F   | 11-10-13 | RHD, P/CMV, SEV RE MS, SEV MR, SEV TR, ORGANIC TVD, GOOD LV FUNCTION, MOD PAH, AF,NC | MVR # 25 SJM + TVA # 32 MC-3 RING   | Dr. VARGHESE T.PANICKER |
| 184  | ██████ | ██████████<br>██████████ | 71  | M   | 15-10-13 | CAD, TVD, GOOD LV, HTN, MILD RENAL DYSFUNCTION                                       | CABG X 3 GRAFTS (LIMA - LAD, RSVG - MAJ DAIGONAL, RPDA)   | Dr. VIVEK V. PILLAI     |
| 185  | ██████ | ██████████               | 53  | M   | 17-10-13 | CAD, TVD, H/O MI, P/PCI - RCA, GOOD LV, DM, HTN, DLP, SR                             | CABG X 8 GRAFTS (LIMA - LAD, RSVG - OM1, OM2, RI, D1, D2, RPDA, RPLB)                                   | Dr. JAYAKUMAR K         |
| 186  | ██████ | ██████████               | 54  | M   | 18-10-13 | CAD, TVD, H/O IWMI, FAIR LV, MILD MR, HTN, MILD RENAL DYSFUNCTION,SR                 | CABG X 3 GRAFTS (LIMA - LAD, RSVG - MAJ OM, RCA)  | Dr. JAYAKUMAR K         |
| 187  | ██████ | ██████████████████       | 78  | M   | 21-10-13 | CAD, TVD, H/O MI, GOOD LV, SR, HTN, COPD   | CABG X 5 GRAFTS (LIMA- LAD, RSVG - MAJ OM, MAJ D, RI, RPDA, MAJ DIAGONAL GRAFT PIGGYBACKED TO OM GRAFT) | Dr. VIVEK V. PILLAI     |
| 188  | ██████ | ██████████████████       | 37  | M   | 22-10-13 | CAD, TVD, H/O MI, P/PCI - LAD, MOD LV DYSFUNCTION, HTN, DLP,SR                       | CABG X 3 GRAFTS (LIMA - LAD, MAJOR OM, RPDA) + LV APICAL PLICATION                                      | Dr. JAYAKUMAR K         |
| 189  | ██████ | ██████████████████       | 71  | M   | 23-10-13 | CAD, TVD, GOOD LV, DM, HTN, DLP, SR  | CABG X 5 GRAFTS (LIMA - LAD, RSVG - DIAGONAL 1, RI, AM-PDA, RPLB)                                       | Dr. JAYAKUMAR K         |
| 190  | ██████ | ██████████████████       | 60  | F   | 24-10-13 | RHD, SEV MR, MILD MS, GOOD LV, AF, HTN, DM, SR                                       | MVR # 29 SJM + PMLP   | Dr. VIVEK V. PILLAI     |
| 191  | ██████ | ██████████████████       | 65  | M   | 25-10-13 | CAD, DVD, GOOD LV, SR  | CABG X 2 GRAFTS (RSVG - LAD, RPDA)  | Dr. JAYAKUMAR K         |

| S.NO | HNO    | NAME       | AGE | SEX | DOS      | DIAGNOSIS   | PROCEDURE   | SURGEON                |
|------|--------|------------|-----|-----|----------|---|---|------------------------|
| 192  | ██████ | ██████████ | 63  | M   | 28-10-13 | BAV, SEV CALC AS, MILD AR, GOOD LV FUNCTION, CAD- SVD, INTERMITTENT AV BLOCK          | AVR # 23 PM + CABG X 1 GRAFT, (RSVG – RCA)  | Dr. PRAVEEN VARMA P.K. |
| 193  | ██████ | ██████████ | 65  | M   | 29-10-13 | CAD, TVD, ACUTE IWMI, P/MI - VSR, FAIR LV FUNCTION, SEV PAH, DM,HTN, DLP, 2:1 AV BLOC | CABG X 3 GRAFTS, (RSVG - LAD, MAJ OM, RPDA) + DACRON PATCH CLOSURE OF VSR + PLICATION OF IW INFARCT | Dr. JAYAKUMAR K        |
| 194  | ██████ | ██████████ | 2   | M   | 04-11-13 | ACHD, MAL-ALIGNED SA VSD, SEV PAH, GOOD BV FUNCTION, SR                               | GP CLOSURE OF SA VSD  | Dr. SABARINATH MENON   |
| 195  | ██████ | ██████████ | 0   | M   | 06-11-13 | CCHD, OBSTRUCTED IC TAPVC, SEV PAH, MODERATE RV DYSFUNCTION,SR                        | PRIMARY SUTURELESS REPAIR OF IC-TAPVC + FENESTRATED TPP CLOSURE OF ASD                              | Dr. BAIJU S.DHARAN     |
| 196  | ██████ | ██████████ | 6   | F   | 11-11-13 | ACHD, OS ASD, GOOD LV, SR   | TPP CLOSURE OF OS ASD   | Dr.SIVAPRASAD V.       |
| 197  | ██████ | ██████████ | 4   | M   | 12-11-13 | CCHD, PA- VSD, S/P- RMBTS, LPA STENOSIS   | ICR + CONDUIT9 #21 PULMONARY HOMOGRAFT) + RMBTS TAKEDOWN.   | Dr. BAIJU S.DHARAN     |
| 198  | ██████ | ██████████ | 0   | F   | 14-11-13 | ACHD, SEVERE JUXTADUCTAL COARCTATION, SEVERE LV DYSFUNCTION, BAV,SR                   | COA REPAIR  | Dr. THOMAS MATHEW      |
| 199  | ██████ | ██████████ | 0   | M   | 15-11-13 | ACHD, MULTIPLE MUSCULAR VSD, MILD PAH, SR   | GP CLOSURE OF INFLOW VSD + DC OF ADDITIONAL MUSCULAR VSD  | Dr. SABARINATH MENON   |
| 200  | ██████ | ██████████ | 0   | M   | 18-11-13 | CCHD, D-TGA, IVS,1R2LCX, SEV PAH, REGRESSED LV,SR                                     | ASO   | Dr. BAIJU S.DHARAN     |
| 201  | ██████ | ██████████ | 0   | M   | 19-11-13 | CCHD, DTGA, P/ASO WITH STENTED STERNUM WITH BORDERLINE HEMODYNAMICS                   | REDO RECONSTRUCTION OF NEO PA + DIRECT CLOSURE OF INFLOW VSD + STERNAL STENTING                     | Dr. BAIJU S.DHARAN     |
| 202  | ██████ | ██████████ | 9   | M   | 22-11-13 | CCHD, TOF, POOR PA, P/ B/L BTS(BLOCKED), SR   | ICR + TAP+ MONOCUSP RECONSTRUCTION OF RVOT FENSTRATION OF THE VSD PATCH+ PFO OPEN.                  | Dr. THOMAS MATHEW      |
| 203  | ██████ | ██████████ | 0   | M   | 25-11-13 | ACHD, INFLOW VSD, SR  | VSD CLOSURE   | Dr. THOMAS MATHEW      |
| 204  | ██████ | ██████████ | 0   | M   | 25-11-13 | CCHD, DTGA, S/P- BAS, 1R2LCX, REGRESSED LV, SEV PAH,SR                                | ASO   | Dr. BAIJU S.DHARAN     |
| 205  | ██████ | ██████████ | 1   | F   | 26-11-13 | CCHD, C-AVCD, RASTELLI-B, SEV PAH,SR  | ICR DOUBLE PATCH TECHNIQUE  | Dr. THOMAS MATHEW      |

| S.NO | HNO  | NAME       | AGE | SEX | DOS      | DIAGNOSIS   | PROCEDURE   | SURGEON                 |
|------|------|------------|-----|-----|----------|---|---|-------------------------|
| 206  | ████ | ██████████ | 0   | M   | 27-11-13 | CCHD, DTGA, IVS, S/P- BAS, PRESERVED LV, 1L2RCX,SR                | ASO   | Dr. BAIJU S.DHARAN      |
| 207  | ████ | ██████████ | 2   | F   | 29-11-13 | CCHD, TOF, LPA STENOSIS, SR                                       | ICR + TAP + MONOCUSP RECONSTRUCTION OF RVOT + LPA PLASTY(BPP) | Dr. THOMAS MATHEW       |
| 208  | ████ | ██████████ | 0   | M   | 30-11-13 | CCHD, OBSTRUCTED IC- TAPVC, MODERATE RV DYSFUNCTION               | TAPVC REPAIR+ STERNAL STENTING                                | Dr. BAIJU S.DHARAN      |
| 209  | ████ | ██████████ | 0   | M   | 02-12-13 | CCHD, OBSTRUCTED TAPVC, P/TAPVC REPAIR                            | DELAYED STERNAL CLOSURE                                       | Dr. THOMAS MATHEW       |
| 210  | ████ | ██████████ | 0   | F   | 02-12-13 | CCHD, TA, RESTRICTIVE VSD, SEV PS, SPELL                          | RMBTS #3MM PTFE GRAFT   | Dr. THOMAS MATHEW       |
| 211  | ████ | ██████████ | 0   | F   | 02-12-13 | CCHD, TOF, GOOD PA, SR  | ICR + RVOT PATCH + MPA PLASTY                                 | Dr. THOMAS MATHEW       |
| 212  | ████ | ██████████ | 0   | M   | 03-12-13 | CCHD, DTGA, IVS, S/P- BAS, PRESERVED LV, 2RLCX, 1 CONAL ARTERY,SR | ASO   | Dr. BAIJU S.DHARAN      |
| 213  | ████ | ██████████ | 14  | M   | 04-12-13 | CCHD, SV (RV), DIRV, DORV, SEV PS, SR                             | BDG   | Dr. SABARINATH MENON    |
| 214  | ████ | ██████████ | 8   | F   | 05-12-13 | P/ASD CLOSURE WITH PERICARDIAL EFFUSION                           | OPEN PERICARDIAL DRAINAGE                                     | Dr. ANANTHANARAYANAN C. |
| 215  | ████ | ██████████ | 3   | F   | 05-12-13 | ACHD, SV ASD, PAPVC OF RPV, MILD PAH, SR                          | SV ASD CLOSURE WITH BPP BY MINI-STERNOTOMY APPROACH           | Dr. THOMAS MATHEW       |
| 216  | ████ | ██████████ | 0   | F   | 06-12-13 | ACHD, SA VSD, PDA, SEVERE HYPERKINETIC PAH, MALNUTRITION, SR      | BPP CLOSURE OF SA VSD + PDA LIGATION                          | Dr. THOMAS MATHEW       |
| 217  | ████ | ██████████ | 0   | F   | 07-12-13 | CCHD, PA-VSD, P/RMBTS, SHUNT STENOSIS                             | RMBTS TAKEDOWN + BDG  | Dr. THOMAS MATHEW       |
| 218  | ████ | ██████████ | 1   | F   | 07-12-13 | ACHD, C-AVCD RASTELLI- B, SEV PAH, SR                             | ICR (DOUBLE PATCH TECHNIQUE)                                  | Dr. THOMAS MATHEW       |
| 219  | ████ | ██████████ | 4   | F   | 09-12-13 | ACHD, P-AVCD, MILD PAH, MOD MR, SR                                | OP ASD CLOSURE + MV REPAIR                                    | Dr. SABARINATH MENON    |
| 220  | ████ | ██████████ | 12  | F   | 10-12-13 | ACHD, MULTIPLE MUSCULAR VSD, TRIVIAL MR, SEVERE PAH               | GP CLOSURE OF APICAL VSD + DC OF ANTERIOR MUSCULAR VSD        | Dr. BAIJU S.DHARAN      |
| 221  | ████ | ██████████ | 25  | M   | 11-12-13 | CCHD, TOF, GOOD PA, P/ CLASSICAL BT SHUNT                         | ICR + RVOT PATCH + RPA PLASTY + BT SHUNT TAKE DOWN.           | Dr. BAIJU S.DHARAN      |
| 222  | ████ | ██████████ | 2   | M   | 16-12-13 | CCHD, TOF, GOOD PA, SR  | ICR + RVOT PATCH + MPA PLASTY                                 | Dr. SABARINATH MENON    |

| S.NO | HNO | NAME | AGE | SEX | DOS      | DIAGNOSIS   | PROCEDURE  | SURGEON              |
|------|-----|------|-----|-----|----------|---|--|----------------------|
| 223  |     |      | 0   | M   | 17-12-13 | ACHD, SA VSD, SEVERE PAH  | VSD CLOSURE  | Dr. SABARINATH MENON |
| 224  |     |      | 9   | F   | 17-12-13 | ACHD, OS ASD, SR  | ASD CLOSURE (MINISTERNOTOMY)   | Dr. THOMAS MATHEW    |
| 225  |     |      | 0   | F   | 17-12-13 | CCHD, TOF, GOOD PA, SR  | ICR + TAP + MONOCUSP RECONSTRUCTION OF RVOT                                    | Dr. SABARINATH MENON |
| 226  |     |      | 1   | M   | 18-12-13 | CCHD, SC - TAPVC, MULTIPLE MUSCULAR VSD, SEV PAH  | MODIFIED SUTURELESS REPAIR OF SC- TAPVC + MULTIPLE VSD CLOSURE + TAR           | Dr. THOMAS MATHEW    |
| 227  |     |      | 0   | F   | 19-12-13 | CCHD, SUPRACARDIAC TAPVC, RESTRICTIVE ASD, SEVERE PAH,SR  | SUTURELESS REPAIR OF SUPRACARDIAC TAPVC  | Dr. BAIJU S.DHARAN   |
| 228  |     |      | 4   | M   | 20-12-13 | CCHD, SI,MC,C-TGA, VSD, PS, RA ISOMERISM, B/L SVC   | B/L BDG  | Dr. THOMAS MATHEW    |
| 229  |     |      | 0   | M   | 23-12-13 | ACHD, MULTIPLE VSD'S, SEV PAH,SR  | PA BAND - 25MM MERSELINE TAPE  | Dr. SABARINATH MENON |
| 230  |     |      | 5   | F   | 23-12-13 | ACHD, OS ASD, SEVERE VALVAR PS, SR  | ASD CLOSURE (TPP) + PULMONARY VALVOTOMY  | Dr. SABARINATH MENON |
| 231  |     |      | 0   | M   | 26-12-13 | CCHD, DORV, MITRAL VALVE HYPOPLASIA, SUPRAMITRAL RING, SEVERE POST SUBCLAVIAN COARCTATION OF AORTA, ARCH HYPOPLASIA, SEVERE PAH | ARCH REPAIR + ATRIAL SEPTECTOMY + PA BANDING #23MM MERSELINE TAPE              | Dr. BAIJU S.DHARAN   |
| 232  |     |      | 0   | M   | 27-12-13 | CCHD, TOF, GOOD PA, SR  | ICR + RVOT PATCH   | Dr. THOMAS MATHEW    |
| 233  |     |      | 0   | M   | 28-12-13 | DORV, POST SUBCLAVIAN COA, ARCH HYPOPLASIA, SUPRAMITRAL RING, SEVERE PAH,SR   | ARCH REPAIR + PA BANDING + ATRIAL SEPTECTOMY                                   | Dr. BAIJU S.DHARAN   |
| 234  |     |      | 31  | F   | 30-12-13 | ACHD, TRANSITIONAL AVCD, MODERTAE MR, MODERATE PAH,SR   | ICR (TPP CLOSURE OF PRIMUM ASD + CIRECT CLOSURE OF SECUNDUM ASD AND INFLOW VSD | Dr. SABARINATH MENON |
| 235  |     |      | 0   | F   | 31-12-13 | CCHD, TOF, SPELL,P/BPV  | RMBTS #3MM PTFE GRAFT  | Dr. THOMAS MATHEW    |
| 236  |     |      | 0   | M   | 01-01-14 | CCHD, DTGA, IVS, P/BAS, PRESERVED LV,SR   | ASO  | Dr. THOMAS MATHEW    |

| S.NO | HNO    | NAME       | AGE | SEX | DOS      | DIAGNOSIS  | PROCEDURE  | SURGEON              |
|------|--------|------------|-----|-----|----------|--|--|----------------------|
| 237  | ██████ | ██████████ | 10  | F   | 02-01-14 | CCHD, SI, DC, DILV, PA, B/L LSV, P/BDG,SR  | EXTRACARDIAC TCPC #20 PTFE GRAFT WITH 4.5MM FENESTRATION           | Dr. BAIJU S.DHARAN   |
| 238  | ██████ | ██████     | 0   | F   | 03-01-14 | ACHD, SEV POST SUB CLAV COA, ASD, SEV PAH, GD LV, SR                               | COA REPAIR   | Dr. THOMAS MATHEW    |
| 239  | ██████ | ██████████ | 0   | F   | 06-01-14 | CCHD, DTGA, SMALL INFLOW MUSCULAR VSD, OS ASD, SEVERE PAH, 1RL2CX, REGRESSED LV,SR | ASO + VSD CLOSURE + ECMO SUPPORT                                   | Dr. BAIJU S.DHARAN   |
| 240  | ██████ | ██████████ | 0   | F   | 07-01-14 | DORV, VSD, POST DUCTAL COA, SEVERE PAH, P/ARCH REPAIR + PA BANDING #22MM BAND      | REDO THORACOTOMY + PA BAND TIGHTENING TO 21MM BAND                 | Dr. BAIJU S.DHARAN   |
| 241  | ██████ | ██████████ | 31  | F   | 15-01-14 | ACHD, TRANSITIONAL AVCD, MODERATE MR,MODERTAE PAH                                  | ICR  | Dr. SABARINATH MENON |
| 242  | ██████ | ██████████ | 0   | M   | 15-01-14 | CCHD, TA, RESTRICTIVE ASD, RESTRICTIVE VSD, SEVERE PS                              | BDG + ATRIAL SEPTECTOMY  | Dr. THOMAS MATHEW    |
| 243  | ██████ | ██████████ | 23  | F   | 15-01-14 | RHD, SEV MR, SEV MS, MILD AS, MILD PAH, GD LV, SR                                  | MVR # 25 CHVP + PMLP   | Dr. THOMAS MATHEW    |
| 244  | ██████ | ██████████ | 8   | F   | 16-01-14 | ACHD, SV-ASD+ PAPVC OF RUPV, SR  | SV ASD CLOSURE + REROUTING OF RUPV TO LA ( MNISTERNOTOMY APPROACH) | Dr. THOMAS MATHEW    |
| 245  | ██████ | ██████████ | 0   | M   | 16-01-14 | CCHD, PA, MA, VSD, ASD, CONFLUENT PA, LPA STENOSIS                                 | BDG + ATRIAL SEPTECTOMY + LPA PLASTY                               | Dr. THOMAS MATHEW    |
| 246  | ██████ | ██████████ | 6   | M   | 16-01-14 | P/ ICR WITH STERNAL SINUS  | STERNAL WIRE REMOVAL   | Dr. THOMAS MATHEW    |
| 247  | ██████ | ██████     | 0   | M   | 17-01-14 | ACHD, LARGE PDA, SEVRE PAH,SR  | PDA INTERRUPTION   | Dr. SABARINATH MENON |
| 248  | ██████ | ██████     | 0   | M   | 18-01-14 | P/ PDA INTERRUPTION FAILED INTUBATION  | EMERGENCY TRACHEOSTOMY   | Dr. SABARINATH MENON |
| 249  | ██████ | ██████████ | 1   | M   | 20-01-14 | CCHD, SI, DC,CA, INFLOW VSD, TGA, PA, LPA STENOSIS, B/L SVC, INTERRUPTED SVC       | LPA PLASTY + RMBTS #5MM PTFE GRAFT                                 | Dr. THOMAS MATHEW    |
| 250  | ██████ | ██████████ | 3   | M   | 21-01-14 | ACHD, OS ASD, MODERATE PS, SR  | TPP CLOSURE OF OS ASD + PULMONARY VALVOTOMY                        | Dr. SABARINATH MENON |
| 251  | ██████ | ██████████ | 0   | M   | 22-01-14 | CCHD, DILV, PA, P/RMBTS WITH DESATURATION.   | RE EXPLORATION WITH REVISION OF PA END ANASTAMOSSES                | Dr. BAIJU S.DHARAN   |

| S.NO | HNO | NAME | AGE | SEX | DOS      | DIAGNOSIS  | PROCEDURE  | SURGEON              |
|------|-----|------|-----|-----|----------|--|--|----------------------|
| 252  |     |      | 0   | M   | 22-01-14 | CCHD, DILV, PA, CLOSING OFF PDA                      | RMBTS #3.5MM PTFE GRAFT  | Dr. BAIJU S.DHARAN   |
| 253  |     |      | 5   | M   | 23-01-14 | ACHD, SA VSD, GOOD LV, SR                            | GP CLOSURE OF SA VSD   | Dr. SABARINATH MENON |
| 254  |     |      | 0   | M   | 24-01-14 | CCHD, OBSTRUCTED SC TAPVC, MODERATE RV DYSFUNCTION   | TAPVC REPAIR   | Dr. BAIJU S.DHARAN   |
| 255  |     |      | 29  | M   | 26-01-14 | P/ P-AVCD REPAIR WITH PERICARDIAL EFFUSION           | PERICARDIAL DRAINAGE   | Dr. THOMAS MATHEW    |
| 256  |     |      | 11  | M   | 27-01-14 | ACHD, SA VSD, SEVERE AR, DILATED LV, SR              | GP CLOSURE OF SA VSD + AV REPAIR   | Dr. THOMAS MATHEW    |
| 257  |     |      | 0   | F   | 27-01-14 | P/RMBTS WITH NECROTISING ENTEROCOLITIS               | EXPLORATORY LAPROTOMY WITH RIGHT HEMICOLECTOMY + DOUBLE BARREL ILEOSTOMY | Dr. THOMAS MATHEW    |
| 258  |     |      | 0   | F   | 28-01-14 | CCHD, DTGA, IVS, 1LCX2R                              | ASO  | Dr. BAIJU S.DHARAN   |
| 259  |     |      | 1   | M   | 29-01-14 | CCHD, DTGA, IVS, P/BAS, REGRESSED LV, RIGHT ARCH, SR | SENNING PROCEDURE  | Dr. BAIJU S.DHARAN   |
| 260  |     |      | 2   | F   | 30-01-14 | CCHD, TA, VSD, PS, B/L SVC, P/PA BAND                | BDG + PA BAND TIGHTENING   | Dr. BAIJU S.DHARAN   |
| 261  |     |      | 2   | M   | 31-01-14 | CCHD, DORV, SA VSD, SEVERE PS, RECURRENT SPELL, SR   | INTRA CARDIAC TUNNEL REPAIR  | Dr. BAIJU S.DHARAN   |
| 262  |     |      | 10  | F   | 01-02-14 | CCHD, DILV, PA, P/TCPC, EMPYEMA THORACIS             | LEFT LUNG DECORTICATION  | Dr. BAIJU S.DHARAN   |
| 263  |     |      | 2   | F   | 03-02-14 | CCHD, TA, VSD, PS, B/L SVC, P/PA BAND                | B/L BDG + PA BAND TIGHTENING   | Dr. BAIJU S.DHARAN   |
| 264  |     |      | 12  | F   | 04-02-14 | CCHD, TOF, FAIR PA, SR                               | ICR + TAP + MONOCUSP RECONSTRUCTION OF RVOT                              | Dr. SABARINATH MENON |
| 265  |     |      | 0   | M   | 05-02-14 | CCHD, DTGA, IVS, P/BAS, REGRESSED LV, SR             | ASO  | Dr. SABARINATH MENON |
| 266  |     |      | 2   | M   | 06-02-14 | ACHD, SA VSD, SR                                     | GP CLOSURE OF VSD  | Dr. THOMAS MATHEW    |
| 267  |     |      | 9   | M   | 06-02-14 | P/ICR WITH STERNAL SINUS                             | STERNAL WIRE REMOVAL   | Dr. THOMAS MATHEW    |
| 268  |     |      | 1   | F   | 07-02-14 | CCHD, DORV, MULTIPLE VSD, ANEURYSMAL MPA, SEVERE PAH | INTRACARDIAC TUNNEL REPAIR + MPA REDUCTION PLASTY                        | Dr. BAIJU S.DHARAN   |
| 269  |     |      | 17  | F   | 11-02-14 | CCHD, TOF, DC- VSD, GOOD PA, SR                      | ICR + TAP + MONOCUSP RECONSTRUCTION OF RVOT                              | Dr. SABARINATH MENON |

| S.NO | HNO    | NAME   | AGE | SEX | DOS      | DIAGNOSIS   | PROCEDURE  | SURGEON                    |
|------|--------|--------|-----|-----|----------|---|--|----------------------------|
| 270  | ██████ | ██████ | 17  | F   | 12-02-14 | CCHD, TOF, P/ICR WITH MEDIASTINAL BLEEDING  | RE-EXPLORATION   | Dr. SABARINATH MENON       |
| 271  | ██████ | ██████ | 3   | F   | 12-02-14 | ACHD, MALALIGNED POSTERIOR ASD, GD LV SR  | TPPCLOSURE OF ASD  | Dr. SABARINATH MENON       |
| 272  | ██████ | ██████ | 16  | M   | 14-02-14 | ACHD, P/VSD CLOSURE + AV REPAIR - IE WITH AORTIC ROOT ABSCESS - ROOT REPLACEMENT - HOMOGRAFT ANEURYSM | RE DOSTERNOTOMY + SUPRACORONARY ASCENDING AORTIC REPLACEMENT | Dr. BAIJU S.DHARAN         |
| 273  | ██████ | ██████ | 21  | F   | 17-02-14 | CCHD TOF, GD PA ANATOMY NORMAL CORONARIES, SR   | ICR+MONOCUSPRECONSTRUCTION OF RVOT PATCH+TAP                 | Dr. BAIJU S.DHARAN         |
| 274  | ██████ | ██████ | 18  | F   | 18-02-14 | CCHD, TOF, CONFL PA, NC, S/P MAPCA COILING, SR  | ICR+RVOTPATCH + RT SUBCLAVIAN ARTERY REPAIR                  | Dr. BAIJU S.DHARAN         |
| 275  | ██████ | ██████ | 0   | M   | 20-02-14 | CCHD, OBSTRUCTED CS TYPE CARDIAC TAPVC, MODERATE RV DYSFUNCTION                                       | TAPVC REPAIR   | Dr. SABARINATH MENON       |
| 276  | ██████ | ██████ | 15  | F   | 24-02-14 | ACHD, OS ASD, MILD PAH, GOOD LV, SR   | TPP CLOSURE OF OS ASD  | Dr. MRITHYUNJAYA V KALMATH |
| 277  | ██████ | ██████ | 2   | M   | 25-02-14 | CCHD, TOF, GOOD PA, SR  | ICR + RVOT PATCH + MPA PLASTY                                | Dr. THOMAS MATHEW          |
| 278  | ██████ | ██████ | 0   | M   | 28-02-14 | ACHD, SEVRE POST SCA COA, SR  | COA REPAIR   | Dr. BAIJU S.DHARAN         |
| 279  | ██████ | ██████ | 6   | M   | 03-03-14 | ACHD, LARGE OS ASD NO PAH, S  | TPP CLOSURE OF OS ASD  | Dr. THOMAS MATHEW          |
| 280  | ██████ | ██████ | 2   | M   | 04-03-14 | CCHD, C-AVCD (RASTELLI - C), TOF, GOOD LV, SR   | ICR (DOUBLE PATCH TECHNIQUE) + RVOT PATCH                    | Dr. BAIJU S.DHARAN         |
| 281  | ██████ | ██████ | 0   | M   | 10-03-14 | CCHD, DORV, VSD, SEVERE PS, RECURRENT SPELL   | ICR + TAP + MONOCUSP RECONSTRUCTION OF RVOT                  | Dr. THOMAS MATHEW          |
| 282  | ██████ | ██████ | 55  | M   | 11-03-14 | CAD,DVD,GDLV,SR,DM,HTN, DLP   | CABG X 3 GRAFTS(LIMA TO LAD,RSVG TO D2,OM3)                  | Dr. JAYAKUMAR K            |
| 283  | ██████ | ██████ | 59  | M   | 11-03-14 | RHD, MODERTAE AS, MODERATE AR, SAM, GOOD LV,  | SAM EXCISION + AVR ( #17 CHVP)                               | Dr. VARGHESE T.PANICKER    |
| 284  | ██████ | ██████ | 57  | F   | 12-03-14 | RHD, SEVERE MS, MODERATE PAH, GOOD LV, SR, NC   | MVR # 23 CHVP  | Dr. VARGHESE T.PANICKER    |

| S.NO |  |  | AGE | SEX | DOS      | DIAGNOSIS   | PROCEDURE   | SURGEON                 |
|------|--|--|-----|-----|----------|---|---|-------------------------|
| 285  |  |  | 49  | M   | 13-03-14 | SEVERE CALCIFIC AS,<br>MODERATE AR, GOOD LV,<br>HTN,NC,SR                   | AVR # 21 CHVP   | Dr. VIVEK V. PILLAI     |
| 286  |  |  | 16  | M   | 14-03-14 | ANNULO AORTIC ECTASIA,<br>AORTIC ROOT ANEURYSM,<br>SEVERE AR, GOOD LV, SR   | BENTALL PROCEDURE ( #23 CHVP +<br>#24MM ALBOGRAFT)                  | Dr. JAYAKUMAR K         |
| 287  |  |  | 59  | M   | 17-03-14 | CAD, TVD, GDLV, SR, DM.   | CABG X 4 GRAFTS (LIMA-LAD,RSVG-<br>D1,OM,PDA)                       | Dr. PRAVEEN VARMA P.K.  |
| 288  |  |  | 57  | F   | 17-03-14 | ACHD,SVASD,PAPVC OF RUPV,<br>SEV PAH,GDLV,SR                                | ASD CLOSURE & PAPVC REROUTING<br>BY DOUBLE PATCH TECHNIQUE          | Dr. BINEESH K.R.        |
| 289  |  |  | 46  | F   | 18-03-14 | RHD, P/CMV, SEVERE RE- MS,<br>SEVERE TR, MODERTAE LV<br>DYSFUNCTION,AF,NC   | MVR #27 CHVP + TVA #28 MC3 RING                                     | Dr. PRAVEEN VARMA P.K.  |
| 290  |  |  | 58  | M   | 19-03-14 | RHD, S/P BMV SEV MR,RT MCA<br>STROKE WITH SEIZURES,SEV<br>MR ,GOOD LV,AF,NC | MVR # 27 CHVP   | Dr. PRAVEEN VARMA P.K.  |
| 291  |  |  | 49  | F   | 20-03-14 | RHD, S/P CMV, SEVERE MS,<br>MOD PAH, AF, GOOD LV,NC                         | MVR # 27 CHVP   | Dr. VIVEK V. PILLAI     |
| 292  |  |  | 74  | M   | 20-03-14 | CAD SVD (RCA) SEV CAL AS,<br>MILD AR, GDLV, SR                              | AVR #21 PM + CABG X 1 GRAFT<br>(RSVG TO RCA)                        | Dr. PRAVEEN VARMA P.K.  |
| 293  |  |  | 38  | F   | 21-03-14 | RHD SEV MS MILD MR MILD AR<br>SEV PAH H/O PAROXYSMAL AF                     | MVR # 23 CHVP   | Dr. PRAVEEN VARMA P.K.  |
| 294  |  |  | 65  | F   | 24-03-14 | CAD, LMCA + TVD, GOOD LV,<br>DM, HTN, DLP, SR                               | CABG X 6 GRAFTS (LIMA - LAD, RSVG<br>- D2, OM2, OM3, RPDA AND RPLB) | Dr. JAYAKUMAR K         |
| 295  |  |  | 29  | F   | 25-03-14 | RHD SEV MS, LAA CLOT, MOD<br>TR, MOD PAH, FAIR LV, LT. SVC,<br>AF           | OMV +TRICUSPID ANNULOPLASTY<br>#30 MC3 RING                         | Dr. VARGHESE T.PANICKER |
| 296  |  |  | 60  | M   | 26-03-14 | RHD. PML PROLAPSE SEVERE<br>MR, MODERATE PAH, GOOD<br>LV, SR, NC            | MVR # 27 PM   | Dr. VARGHESE T.PANICKER |
| 297  |  |  | 20  | M   | 27-03-14 | RHD, SEVERE MR, MILD MS,<br>MILD TR, MODERATE PAH                           | MVR #23 CHVP  | Dr. BINEESH K.R.        |
| 298  |  |  | 50  | M   | 28-03-14 | RHD, SEVERE AS, TRIVIAL AR,<br>GOOD LV, SR,NC                               | AVR #23 CHVP  | Dr. VARGHESE T.PANICKER |

| S.NO |  |  | AGE | SEX | DOS      | DIAGNOSIS   | PROCEDURE   | SURGEON                 |
|------|--|--|-----|-----|----------|---|---|-------------------------|
| 299  |  |  | 76  | F   | 31-03-14 | CAD,LMCA,SVD,GOOD LV,SR,HTN,DLP,HYPOTHYROID                     | CABGX 3GRAFTS(RSVG-LAD,OM,RCA)  | Dr. VIVEK V. PILLAI     |
| 300  |  |  | 59  | M   | 01-04-14 | RHD, P/CMV,SEVERE MS, MODERATE MR, GOOD LV, AF,NC               | MVR # 25 CHVP   | Dr. VARGHESE T.PANICKER |
| 301  |  |  | 23  | M   | 02-04-14 | RHD, AML PROLAPSE, SEVERE MR, MILD PAH, GOOD LV, SR             | MV REPAIR , NEOCHORDAE TO A2 + # 27 TAYLOR RING ANNULOPLASTY                            | Dr. VARGHESE T.PANICKER |
| 302  |  |  | 39  | M   | 03-04-14 | ACHD,SV ASD,NO PAH,PAPVC, SR                                    | ASD CLOSURE+ PAPVC RE-ROUTING DOUBLE PATCH TECHNIQUE                                    | Dr. VARGHESE T.PANICKER |
| 303  |  |  | 71  | F   | 04-04-14 | SEVERE AS, CAD- DVD, GOOD LV,SR                                 | AVR # 21 PM + CABG X 2 GRAFTS (LIMA – LAD, RSVG – RCA)                                  | Dr. PRAVEEN VARMA P.K.  |
| 304  |  |  | 45  | F   | 07-04-14 | CAD,TVD,RECENT ANGINA,GDLV,HTN,DM,SR                            | CABG X8 GR(LIMA TO LAD,RSVG TO LAD,D3,OM2,RPDA,RPLB)                                    | Dr. JAYAKUMAR K         |
| 305  |  |  | 45  | F   | 08-04-14 | P/CABG WITH SFA EMBOLIC OCCLUSION                               | SFA EMBOLECTOMY   | Dr. BINEESH K.R.        |
| 306  |  |  | 63  | M   | 09-04-14 | CAD TVD FAIRLV SR, VARICOSE VEINS                               | CABGX6 GRAFT (LAD,D1,OM2,TERMINAL OM, RPLB,RPDA)(D1 PIGGYBAGED TO OM2)                  | Dr. JAYAKUMAR K         |
| 307  |  |  | 43  | M   | 11-04-14 | ACHD,OS ASD,MILD PAH,GOOD LV FUNCTION,NC,AF                     | TPP CLOSURE OF OSASD  | Dr. JAYAKUMAR K         |
| 308  |  |  | 45  | F   | 12-04-14 | P/MVR WITH PERICARDIAL EFFUSION                                 | PERICARDIAL DRAINAGE LEFT THORACOTOMY APPROACH  | Dr. SIVAPRASAD V.       |
| 309  |  |  | 65  | F   | 14-04-14 | CAD, LMCA+ TVD GOODLV, SR HTN, LEFT ICA STENOSIS                | CABG X 4 GRAFT ( LIMA - LAD, RVSG - D1, MAJ OM, RPDA, RVSG OF D1 PIGGYBACKED TO MAJ OM) | Dr. VIVEK V. PILLAI     |
| 310  |  |  | 61  | M   | 16-04-14 | SEV AS, MOR AR,CAD-SVD,GOOD LV,SR,DM                            | AVR #19 PM, CABG X1 GRAFT(RSVG-LAD)   | Dr. JAYAKUMAR K         |
| 311  |  |  | 58  | M   | 21-04-14 | CAD,LMCA+ TVD, GOODLV,SR,HTN,DLP                                | CABG X 5 GRAFT (LIMA TO LAD,RSVG TO D1,MAJ OM,RPDA,RPLB)                                | Dr. VIVEK V. PILLAI     |
| 312  |  |  | 50  | M   | 22-04-14 | CAD,LMCA,TVD,SLVD,SR,HTN,D M,DLP,NEPHROPATHY                    | CABGX 5 GRAFTS (LIMA-LAD,RSVG-D1,MAJ OM,RI,RPDA)  | Dr. JAYAKUMAR K         |
| 313  |  |  | 52  | M   | 23-04-14 | BAV, SEVERE CALCIFIC AS, ASCENDING AORTIC ANEURYSM, GOOD LV, NC | BENTALL DE BONO PROCEDURE, AV # 23 CHVP + #24MM ALBOGRAFT                               | Dr. JAYAKUMAR K         |

| S.NO |  |  | AGE | SEX | DOS      | DIAGNOSIS   | PROCEDURE  | SURGEON                 |
|------|--|--|-----|-----|----------|---|--|-------------------------|
| 314  |  |  | 57  | M   | 24-04-14 | CAD,TVD,GOOD LV,<br>DM,HTN,SR,DLP   | CABGX4GRAFTS (LIMA-LAD,RSVG-<br>D1,OM,RPDA)  | Dr. JAYAKUMAR K         |
| 315  |  |  | 63  | F   | 25-04-14 | CKD, ON MAINTENANCE<br>HEMODIALYSIS   | LEFT BRACHIOCEPHALIC AVF   | Dr. AJAY                |
| 316  |  |  | 72  | M   | 25-04-14 | SEVERE AS, MILD AR, GOOD<br>LV,CAD,SVD,P/ PCI TO RCA, SR,<br>PORCELIN AORTA                               | NIL  | Dr. VARGHESE T.PANICKER |
| 317  |  |  | 37  | M   | 28-04-14 | SEVERE AR, DILATED LV, GOOD<br>LV,SR  | AVR # 21 CHVP  | Dr. VIVEK V. PILLAI     |
| 318  |  |  | 13  | F   | 28-04-14 | ACHD, OS ASD, SR  | TPP CLOSURE OF OS ASD  | Dr. SIVAPRASAD V.       |
| 319  |  |  | 71  | M   | 29-04-14 | SEV CAL AS, MOD AR, GOOD LV,<br>SR, CAD, SVD, B/L CAROTID<br>ARTERY STENOSIS, B/L PVOD,<br>VARICOSE VEINS | AVR #19 PM+ CABG X 2 GRAFT<br>(RSVG -OM, RPDA)   | Dr. VIVEK V. PILLAI     |
| 320  |  |  | 45  | F   | 29-04-14 | P/CABG, P/ FACIOTOMY LEFT<br>LOWER LIMB FOR ACUTE LIMB<br>ISCHEMIA  | SSG AND DEBRIBEMENT AND<br>SECONDARY SUTURING OF<br>FACIOTOMY LEFT LOWER LIMB  | Dr. BINEESH K.R.        |
| 321  |  |  | 44  | F   | 30-04-14 | MVP,SEV MR,OS ASD,MILD<br>CAD, MODERATE PAH,GOOD<br>LV,SR   | MV REPAIR(QUADRANGULAR<br>RESECTION OF P2+ NEOCHORDAE TO<br>P2+ #27 TAYLOR RING) +DIRECT<br>CLOSURE OF OSASD                 | Dr. VARGHESE T.PANICKER |
| 322  |  |  | 51  | F   | 02-05-14 | BAV, SEV AR, DILATED LV,<br>GOOD LV FUNCTION, SR NC   | AVR # 23 CHVP  | Dr. BINEESH K.R.        |
| 323  |  |  | 65  | F   | 05-05-14 | SACCULAR THORACO-<br>ABDOMINAL AORTIC<br>ANEURYSM (TYPE V), HTN   | INCLUSION ANEURYSMORRHAPHY<br>USING 16MM COATED POLYESTER<br>GRAFT (UNDER TEMPORARY AORTO-<br>FEMORAL BYPASS + CSF DRAINAGE) | Dr. UNNIKRISHNAN.M      |
| 324  |  |  | 60  | F   | 06-05-14 | CAD,TVD,GOOD LV,<br>SR,DM,HTN,DLP   | CABG X 3 GRAFTS(LIMA TO LAD,<br>RSVG - MAJ OM,RPDA)  | Dr. PRAVEEN VARMA P.K.  |
| 325  |  |  | 48  | F   | 07-05-14 | CAD, CSA, GOOD LV, SR, DM,<br>HTN   | CABG X 3 GRAFTS, (LIMA (FREE<br>GRAFT) - LAD, RSVG-OM3, RPDA)  | Dr. PRAVEEN VARMA P.K.  |
| 326  |  |  | 57  | M   | 08-05-14 | SEV CAL AS,CAD,MILD<br>LMCA,TVD,GOOD<br>LV,SR,DM,HTN  | AVR#21 PM + CABGX3 GRAFTS<br>(RSVG-LAD, OM, PDA)   | Dr. VIVEK V. PILLAI     |

| S.NO |  |  | AGE | SEX | DOS      | DIAGNOSIS  | PROCEDURE   | SURGEON                 |
|------|--|--|-----|-----|----------|--|---|-------------------------|
| 327  |  |  | 65  | M   | 09-05-14 | CAD,DVD,LMCA,SEV CAL AS,FAIR LV FUNCTION,HTN,COPD                          | AVR#21PM + CABGX2 GRAFTS,(RSVG-LAD,PDA)   | Dr. VIVEK V. PILLAI     |
| 328  |  |  | 50  | M   | 12-05-14 | RHD,SEV AS,SEV AR,DIL LV,,GOOD LV,SR,NC                                    | AVR #23 SJR   | Dr. VARGHESE T.PANICKER |
| 329  |  |  | 67  | F   | 13-05-14 | SEV CAL AS,MILD AR,GOOD LV,SR,NC,DM  | NICKS AORTIC ROOT ENLARGEMENT+ AVR #19 PM   | Dr. VARGHESE T.PANICKER |
| 330  |  |  | 62  | M   | 15-05-14 | RHD,SEV MR,MOD MS, GOOD LV,AF  | MVR #29 PM  | Dr. BINEESH.K.R         |
| 331  |  |  | 73  | F   | 17-05-14 | SEVERE AS,MILD AR,CAD-SVD,GOOD LV,SR                                       | AVR # 17CHVP + CABG X 1 GRAFTS(RSVG-RPDA)   | Dr. VIVEK V. PILLAI     |
| 332  |  |  | 58  | M   | 21-05-14 | CAD,TVD,MILD MR,MODERATE LVD,SR,DM,DLP                                     | CABG X 4 GRAFTS (LIMA- LAD,RSVG-D1,MAJ OM,RPDA)   | Dr. JAYAKUMAR K         |
| 333  |  |  | 61  | M   | 19-05-14 | RHD,MOD MS, MILD MR, MOD SEV AS, MILD AR, MOD PAH, AF, DM                  | DVR, MV # 25 CHVP, AV # 21 CHVP   | Dr.PRAVEEN VARMA P.K.   |
| 334  |  |  | 26  | M   | 22-05-14 | ANNULO AORTIC ECTASIA, ASC AORTIC ANEURYSM, SEV AR, MVP OF AML             | MODIFIED BENTALLS PROCEDURE AVR #23 CHVP +24 MM ALBOGRAFT ASCENDING AORTIC ROOT REPLACEMENT                   | Dr. JAYAKUMAR K         |
| 335  |  |  | 44  | M   | 23-05-14 | CAD,TVD,GOOD LV,SR,HTN   | CABGX 4 GRAFTS (LIMA-LAD,RSVG-MAJ DIAG,RI,RPDA)   | Dr. VIVEK V. PILLAI     |
| 336  |  |  | 25  | F   | 25-05-14 | SOV ANEURYSM, SEVERE AR, INTERMITTENT CHB.                                 | MODIFIED BENTALLS PROCEDURE AVR # 21 CHVP + # 23 ALBOGRAFT ASCENDING AORTIC REPLACEMENT + SOV ANEURYSM REPAIR | Dr. JAYAKUMAR K         |
| 337  |  |  | 66  | F   | 26-05-14 | SEV CAL AS,CAD,DVD,OLD AWMI,SR,DM,DLP,HYPOT                                | AVR# 19 PM+ CABG X 2 GRAFTS(RSVG TO LAD,MAJ OM + AORTOPLASTY  | Dr. VARGHESE T.PANICKER |
| 338  |  |  | 63  | M   | 26-05-14 | CAD,TVD,GOOD LV,SR,PARKINSONISM  | CABG X 4 GRAFTS(LIMA-LAD,RSVG-D1,OM2,DISTAL RCA)  | Dr. JAYAKUMAR K         |
| 339  |  |  | 42  | F   | 27-05-14 | RHD, SEVERE MS, MODERTE MR, SEVERE TR, MILD TS, SEVERE PAH, F, NC, GOOD LV | MVR # 25 CHVP + TVA # 30 MC3 RING   | Dr. PRAVEEN VARMA P.K.  |

| S.NO |  |  | AGE | SEX | DOS      | DIAGNOSIS   | PROCEDURE  | SURGEON                |
|------|--|--|-----|-----|----------|---|--|------------------------|
| 340  |  |  | 67  | F   | 28-05-14 | CAD, TVD, GOOD LV, MOD MR, SR, HTN, DM, DLP                             | CABG X 4 GRAFTS (LIMA-LAD, RSVG-MAJ DAIG, MAJ OM & LPLB)                                   | Dr. PRAVEEN VARMA P.K. |
| 341  |  |  | 37  | M   | 29-05-14 | CAD,SVD,GOOD LV,SR  | OP-CABG X 2 GRAFTS(LIMA-LAD, RSVG -D1)   | Dr. JAYAKUMAR K        |
| 342  |  |  | 60  | M   | 30-05-14 | CAD, TVD, LMCA, MOD LVD, SR, HTN, DLP,COPD                              | CABG X 5 GRAFTS (LIMA-LAD, RSVG-RI, MAJ DIAG, RPDA & RPLB)                                 | Dr. PRAVEEN VARMA P.K. |
| 343  |  |  | 15  | M   | 02-06-14 | ACHD, SV ASD, PAPVC OF RUPV AND RMPV, MILD PAH,SR                       | SV ASD CLOSURE + PAPVC REROUTING   | Dr. BINEESH K.R.       |
| 344  |  |  | 55  | M   | 02-06-14 | CAD, SVD, GOOD LV,SR  | OP CABG X 1GRAFT (LIMA – LAD)  | Dr. JAYAKUMAR K        |
| 345  |  |  | 56  | M   | 03-06-14 | CAD,SVD, MILD LVD, MILD MR,SR, DM,HTN,DLP.                              | OPCABG X 2 GRAFTS (LIMA-LAD,RSVG-MAJ DIAGONAL)   | Dr. JAYAKUMAR K        |
| 346  |  |  | 56  | M   | 04-06-14 | CAD,TVD,OLD IWMI,SEV MR,SEV LVD,SR,DM,DLP                               | CABG X 3 GRAFTS(RSVG-MAJ OM,D1,RPDA) + MVR #27 CHVP  | Dr. VIVEK V. PILLAI    |
| 347  |  |  | 52  | F   | 05-06-14 | RHD, SEVERE MS, MILD AS, MILD AR, MILD TR, MOD PAH, GOOD LV, AF, NC     | MVR # 25 CHVP + PMLP   | Dr. VIVEK V. PILLAI    |
| 348  |  |  | 48  | F   | 06-06-14 | RHD,S/P CMV,SEV CAL MS,MOD TR,ORGANIC TVD,MILD AR,AF,MILD PAH           | MVR #25 CHVP+PMLP + DE VEGA TVA  | Dr. BINEESH K.R.       |
| 349  |  |  | 60  | M   | 09-06-14 | RHD,SEV CAL MS,MILD-MOD MR,MILD AS,MOD AR,LA CLOT, MOD PAH AF, DM, HTN, | DVR (MVR # 27 CHVP + PMLP , AVR 23 # CHVP) + LA CLOT REMOVAL+LA APPANDAGE CLOSURE          | Dr. VIVEK V. PILLAI    |
| 350  |  |  | 68  | M   | 10-06-14 | CAD,TVD,GOOD LV,SR, HTN, DLP, BA  | CABG X 5 GRAFTS (LIMA- PROXIMAL LAD, RSVG- DISTAL LAD, D1, OM1 & LPDA)                     | Dr. VIVEK V. PILLAI    |
| 351  |  |  | 58  | M   | 11-06-14 | CAD,TVD,GOOD LV,SR,DM,DLP   | CABG X 5 GRAFTS (LIMA-LAD,RSVG-MAJ OM,MAJ DIAG,RI & RPDA )                                 | Dr. JAYAKUMAR K        |
| 352  |  |  | 57  | M   | 20-06-14 | SEVERE CALCIFIC AS, MODERATE AR, SEVERE PAH, MILD LV DYSFUNCTION, SR,NC | AVR # 21 CHVP  | Dr. VIVEK V. PILLAI    |
| 353  |  |  | 53  | M   | 22-06-14 | TYPE A AORTIC DISSECTION,SEV AR,FAIR LV,ACUTE PULM EDEMA,HTN,SR         | SUPRACORONARY ASCENDING AORTIC REPLACEMENT WITH #30 ALBOGRAFT+RESUSPENSION OF AORTIC VALVE | Dr. JAYAKUMAR K        |

| S.NO |  |  | AGE | SEX | DOS       | DIAGNOSIS   | PROCEDURE  | SURGEON                  |
|------|--|--|-----|-----|-----------|---|--|--------------------------|
| 354  |  |  | 49  | M   | 23-06-14  | CAD,SVD,GOOD LV,<br>SR,DM,HTN,DLP   | OPCAB X 2 GRAFTS (LIMA-LAD,<br>RSVG-DI)                            | Dr. JAYAKUMAR K          |
| 355  |  |  | 64  | M   | 23-06-14  | SEV CAL AS,CAD,SVD,GOOD<br>LV,SR  | AVR #19 SJM+CABG X 2 GRAFTS<br>(RSVG-LAD,D1)                       | Dr. VARGHESE T.PANICKER  |
| 356  |  |  | 45  | F   | 24-06-14  | RHD, SEVERE MS, GOOD LV<br>FUNCTION, AF, NC                                 | MVR # 25 CHVP + PMLP   | Dr. BINEESH K.R.         |
| 357  |  |  | 45  | M   | 24-06-14  | CAD,TVD,GOOD LV,SR,DM,HTN   | CABGX5 GRAFTS(LIMA-LAD,RSVG-<br>MAJ OM, D1,TERM OM,RPLB)           | Dr. JAYAKUMAR K          |
| 358  |  |  | 67  | F   | 25-06-14  | BAV, MOD AR, MOD AS, MILD<br>MR, ASCENDING AORTIC<br>ANEURYSM, SR, NC       | MODIFIED BENTALLS PROCEDURE<br>AVR# 21 PM + # 24 ALBOGRAFT         | Dr. JAYAKUMAR K          |
| 359  |  |  | 17  | F   | 26 -06-14 | ACHD, OS ASD, SR  | ASD CLOSURE  | Dr. VARGHEESE.T.PANICKER |
| 360  |  |  | 32  | M   | 27-06-14  | RHD,SEV MR,MOD MS,MILD<br>PAH,S/P CMV,GOOD LV,AF                            | MVR # 29 CHVP+PMLP   | Dr. VIVEK V. PILLAI      |
| 361  |  |  | 62  | M   | 30-06-14  | RHD, SEVERE MR, MODERATE<br>MS, SEVERE TR,MODERATE LV<br>DYSFUNCTION, AF,NC | MVR # 29 CHVP + MODIFIED DE<br>VEGA'S ANNULOPLASTY OF TV           | Dr. BINEESH K.R.         |
| 362  |  |  | 74  | M   | 30-06-14  | CAD, TVD, GOOD LV, HTN,SR   | CABG X 5 GRAFTS (LIMA - LAD, RSVG<br>- D1, OM1, OM3, PRE CRUX RCA) | Dr. JAYAKUMAR K          |
| 363  |  |  | 9   | F   | 01-07-14  | ACHD, OSASD, SR   | ASD CLOSURE  | Dr. SUDIP DUTTA BARUAH   |
| 364  |  |  | 3   | M   | 01-07-14  | ACHD, OS ASD, PAPVC OF LUPV<br>- IV   | TPP CLOSURE OF OS ASD + LUPV -<br>LAA ANASTAMOSESES                | Dr. SABARINATH MENON     |
| 365  |  |  | 0   | F   | 02-07-14  | CCHD, MIXED TAPVC, OS ASD,<br>LSVC,SEV PAH                                  | TAPVC REPAIR (CS CUT BACK) + LSVC<br>- RAA ANASTAMOSESES           | Dr. SABARINATH MENON     |
| 366  |  |  | 1   | M   | 03-07-14  | CHD,TOF,PA, S/P RMBTS (3MM<br>PTFE),SPELL.                                  | ICR + TAP + MONOCUSP<br>RECONSTRUCTION OF RVOT                     | Dr. BAIJU S.DHARAN       |
| 367  |  |  | 19  | F   | 04-07-14  | CCHD, TOF, GOOD PA, SR  | ICR + RVOT PATCH   | Dr. SABARINATH MENON     |
| 368  |  |  | 4   | M   | 07-07-14  | CCHD,TOF,CONF PA, SR  | TRANS RA ICR+PV INSPECTION   | Dr. THOMAS MATHEW        |
| 369  |  |  | 0   | M   | 08-07-14  | OBSTRUCTED SC-TAPVC,<br>MODERATE RV DYSFUNCTION                             | TAPVC REPAIR   | Dr. BAIJU.S.DHARAN       |
| 370  |  |  | 0   | M   | 09-07-14  | ACHD, PM VSD, OS ASD,<br>SEVERE PAH,SR                                      | VSDCLOSURE + DIRECT CLOSURE OF<br>ASD                              | Dr. THOMAS MATHEW        |

| S.NO |  |  | AGE | SEX | DOS      | DIAGNOSIS   | PROCEDURE  | SURGEON              |
|------|--|--|-----|-----|----------|---|--|----------------------|
| 371  |  |  | 3   | M   | 10-07-14 | CCHD,DTGA,SP VSD,SEV SV PS, STRADDLING MV,ASD,CONF PA                   | RASTELLI PROCEDURE (# 21 SIZE PA HOMOGRAFT),PFO OPEN   | Dr. BAIJU S.DHARAN   |
| 372  |  |  | 0   | F   | 11-07-14 | CCHD, PA, VSD, SPELL  | RMBTS # 3MM PTFE GRAFT   | Dr. SABARINATH MENON |
| 373  |  |  | 0   | M   | 15-07-14 | CCHD,D-TGA,IVS,ASD,PDA, REGRESSING LV,SR,S/P BAS                        | ASO  | Dr. THOMAS MATHEW    |
| 374  |  |  | 1   | F   | 16-07-14 | CCHD, TOF, CONF PA, SR, NC  | ICR + TAP + MONOCUSP RECONSTRUCTION RVOT   | Dr. BAIJU S.DHARAN   |
| 375  |  |  | 0   | M   | 18-07-14 | CCHD, TA, NRG, RESTRICTIVE VSD  | BDG  | Dr. THOMAS MATHEW    |
| 376  |  |  | 0   | M   | 19-07-14 | CCHD, SI, LC, DORV, PA, FAIR PA, B/L SVC, OS ASD, SPELL                 | EMERGENCY B/L BDG + PDA LIGATION   | Dr. THOMAS MATHEW    |
| 377  |  |  | 0   | F   | 21-07-14 | ACHD, C-AVCD(RASTELLI - A), HYPOPLASTIC L-AVV, COR TRIATRIATUM, SEV PAH | PA BAND # 24MM BAND + COR TRIATRIATUM REPAIR   | Dr. BAIJU S.DHARAN   |
| 378  |  |  | 1   | F   | 22-07-14 | CCHD, TA, SEVERE PS, RPA STENOSIS, CUTOFF LPA P/PDA STENT, SPELL        | BDG + PA PLASTY  | Dr. BAIJU S.DHARAN   |
| 379  |  |  | 0   | M   | 23-07-14 | ACHD, SA VSD, SEVERE PAH  | VSD CLOSURE  | Dr. BAIJU S.DHARAN   |
| 380  |  |  | 0   | M   | 24-07-14 | HLHS,LEFT ATRIAL ISOMERISM,DORV,COMMON ATRIUM,SR                        | NORWOOD STAGE I (# 3.5MM PTFE RMBTS + ARCH RECONSTRUCTION WITH BPP + ANASTOMOSIS OF RECONSTRUCTED ASC. AORTA & PA TO PROXIMAL ARCH + ATRIAL SEPTECTOMY + TRICUSPID VALVE ANNULOPLASTY) | Dr. BAIJU S.DHARAN   |
| 381  |  |  | 0   | M   | 25-07-14 | DTGA, IVS, P/BAS, REGRESSING LV, 1LCX2R                                 | ASO  | Dr. BAIJU S.DHARAN   |
| 382  |  |  | 1   | F   | 29-07-14 | ACHD SV ASD (SVC) PAPVC OF RUPV   | WARDENS PROCEDURE  | Dr. SABARINATH MENON |
| 383  |  |  | 2   | F   | 31-07-14 | CCHD,TOF,GOOD PA,SR,NC  | ICR + TAP + MONOCUSP RECONSTRUCTION OF RVOT  | Dr. THOMAS MATHEW    |
| 384  |  |  | 1   | F   | 04-08-14 | CCHD,TOF,GOOD PA,PFO  | ICR+ MPA PLASTY  | Dr. SABARINATH MENON |
| 385  |  |  | 8   | F   | 04-08-14 | PAVCD,ADD OS ASD,MOD MR,MILD TR,PAH,SR                                  | ICR(MV REPAIR+TPP CLOSURE OF OSTIU, PRIMUM ASD AND OS ASD) (MINISTERNOTOMY APPROACH)   | Dr. THOMAS MATHEW    |

| S.NO |  |  | AGE | SEX | DOS      | DIAGNOSIS  | PROCEDURE   | SURGEON              |
|------|--|--|-----|-----|----------|--|---|----------------------|
| 386  |  |  | 2   | F   | 05-08-14 | LARGE INFLOW VSD,SEV PS(INFUNDIBULAR),LV,SR,NC                       | BDG+ATRIAL SEPTECTOMY   | Dr. THOMAS MATHEW    |
| 387  |  |  | 38  | F   | 06-08-14 | EBSTEIN ANOMALY OF TV,SEV TR,NO ASD,SR                               | ONE AND A HALF REPAIR(CONE REPAIR+ BDG)   | Dr. BAIJU S.DHARAN   |
| 388  |  |  | 0   | F   | 08-08-14 | ACHD,MAL-ALLIGNED SAVSD,FENESTRATED IAS,SEV PAH,SR                   | VSD CLOSURE + ASD CLOSURE   | Dr. SABARINATH MENON |
| 389  |  |  | 12  | F   | 08-08-14 | ACHD, SUB AORTIC MEMBRANE, MITRAL ARCADE, MODERATE MR, SEVERE MS     | SAM EXCISION + SEPTAL MYECTOMY + MVR # 21 CHVP (AORTIC VALVE IN REVERSED ORIENTATION)   | Dr. THOMAS MATHEW    |
| 390  |  |  | 1   | F   | 11-08-14 | ACHD, LARGE PDA, OS ASD, SEVERE PAH,SR                               | PDA INTERRUPTION  | Dr. SABARINATH MENON |
| 391  |  |  | 7   | M   | 12-08-14 | ACHD, PM VSD, PFO, PDA, SEVERE PAH, DOWN SYNDROME                    | VSD CLOSURE + PDA INTERRUPTION + PFO CLOSURE  | Dr. THOMAS MATHEW    |
| 392  |  |  | 0   | F   | 13-08-14 | SI,DC,DORV,CA, SV(RV)PA, ASD,VSD,PDA,LSVC,SR                         | B/L BDG+ PA PLASTY  | Dr. SABARINATH MENON |
| 393  |  |  | 0   | F   | 14-08-14 | SS,DC,L-TGA,PA, VAD, LPA ORGIN STENOSIS,PDA,GOOD VENT FUNCTON ,SR    | RMBTS#3.5 MM PTFE GRATFT,+LPA PLASTY USING BPP  | Dr. BAIJU S.DHARAN   |
| 394  |  |  | 3   | F   | 18-08-14 | TOF,SEV INF PS,MAL ALLIGNED SA VSD,NC,SR                             | ICR   | Dr. BAIJU S.DHARAN   |
| 395  |  |  | 0   | F   | 19-08-14 | TRUNCUS ARTERIOSUS (TYPE -IV),TRUNCAL REGURGITATION, SINGLE CORONARY | TRUNCUS ARTERIOSUS REPAIR(# 17 PA CONDUIT)+ TRUNCAL VALVE REPAIR+ ARCH REPAIR +PFO OPEN | Dr. BAIJU S.DHARAN   |
| 396  |  |  | 2   | M   | 20-08-14 | CCHJD,TOF,LAD CROSSING RVOT,RT ARCH,SPELLS +,GDLV,S                  | ICR+MPA PLASTY  | Dr. THOMAS MATHEW    |
| 397  |  |  | 2   | M   | 22-08-14 | TOF, CONF PA,SR,NC   | ICR+TAP+RVOT RECONSTRUCTION USING MONOCUSP  | Dr. SABARINATH MENON |
| 398  |  |  | 25  | F   | 25-08-14 | DORV, REST VSD, LVOTO, SMM, LV INFLOW OCCLUSION                      | INTRACARDIAC TUNNEL REPAIR + SMM EXCISION   | Dr. BAIJU S.DHARAN   |



# **INTERESTING CASES**

## **INTERESTING CASES**

- BENTALL PROCEDURE
  
- DOR PROCEDURE
  
- PSEUDO ANEURYSM OF ASCENDING AORTA
  
- SOV ANEURYSM REPAIR
  
- NORWOOD PROCEDURE
  
- TRUNCUS ARTERIOSUS REPAIR
  
- SENNING PROCEDURE
  
- INTERRUPTED ARCH REPAIR
  
- RASTELLI OPERATION
  
- CONE REPAIR

# **BENTALL PROCEDURE**

**DIAGNOSIS:** ASCENDING AORTIC ANEURYSM, SEVERE AR, DILATED LV, HTN, NC.

**PROCEDURE:** BENTALL PROCEDURE

**HISTORY:** 44 year old female presented with h/o DOE, FC- II x 3 years, associated with h/o AOE FC- II, pre-syncope, palpitation. She is a known case of hypothyroidism on medications. HTN (+), DM (-), DLP (-).

**PHYSICAL EXAMINATION:** No pallor/icterus/pedal edema. HR: 88/min. BP: 150/40mm Of Hg. CVS- precordium normal. S1 S2 (+) 3/6 early diastolic murmur (+) in aortic area. RS: AEBE, clear. P/A- WNL CNS-WNL.

**BLOOD INVESTIGATIONS:** WNL

**CXR:** CTR- 0.65, LV apex, dilated ascending aorta.

**ECG:** SR, axis + 100', LVH with strain.

**ECHO:** LV- 65/50, EF: 45%, LA- 34, ASc AO-54 mm, STJ- 40mn, No dissection flap. AR-3-4 +, AV- tri-leaflet, Fair LV function

**CAG:** LMCA- normal, LAD- proximal 20-30% plaque. LCX- ND, normal. RCA- Dominant, normal.

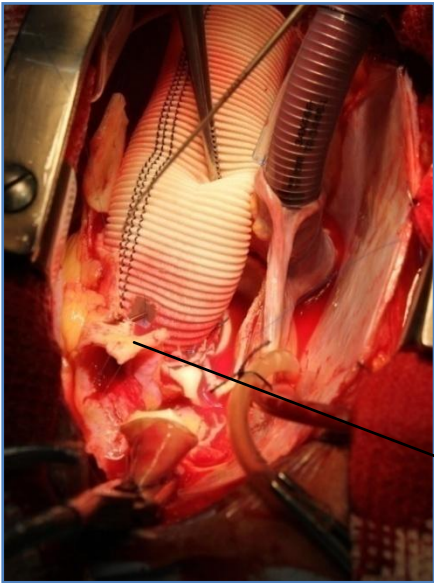
**SURGICAL FINDINGS:** Ascending aortic aneurysm size 6x6 cm+ extending upto the arch. Arch vessels free. No e/o intimal tear. Sev AR+. Coronary ostium normal, LV dilated. Moderate LV dysfunction+.

## **STEPS:**

Median sternotomy. Vertical pericardiotomy. pericardial stays. Heparinization. Aorto – RA CPB instituted. Left heart vented via the RUPV. Core cooling started. Aorta cross clamped. Aneurysm opened. Antegrade ostial cold blood cardioplegia given. Heart arrested in diastole. Coronary buttons harvested. Aneurysm excised. Aortic valve excised. A composite graft created with # 23 CHVP and #24 ALBO graft. Proximal end of the composite graft sutured to the Aortic annulus with 2-0 Tycron sutures in Aorta to LV fashion. Coronary buttons anastomosed with the graft with 6-0 prolene. Distal end of the graft sutured to the distal end of the ascending aorta. De-airing done. Aortic cross clamp removed. Heart picked up in VT rythm. DC version with 20 Joules. Amiodarone given. Heart reverted to sinu srythm. 1 RA and 1 RV pacing wire placed. Came off bypass with stable hemodynamics. Protamine. Decannulation. Hemostasis secured. 2 Mediastinal drains placed. Sternotomy wound closed in layers.

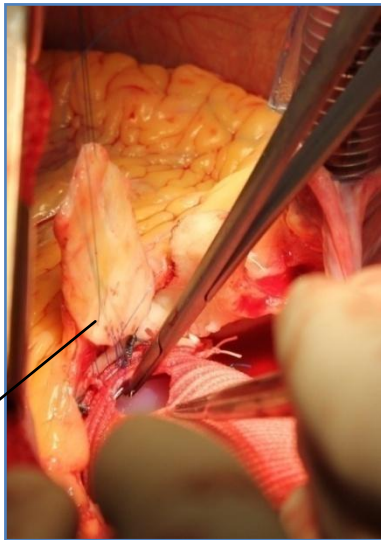
**CPB : 90 minutes ACC: 60 minutes.**

**PREPARATION OF VALVED  
CONDUIT**



**CORONARY  
BUTTON  
ANASTOMOSES**

LCA



RCA



**COMPLETED BENTALL'S  
PROCEDURE**

## **DOR PROCEDURE + CABG**

**DIAGNOSIS:** CAD,TVD, H/O AW MI, LV ANEURYSM, MODERATE LV DYSFUNCTION, P/PPI, DM, HTN, DLP,SR.

**PROCEDURE:** DOR PROCEDURE + CABG X 4 GRAFTS, LIMA – LAD, RSVG – DIAGONAL, OM-1, RPDA.

**HISTORY:** 64 year old male. Presented with h/o DOE-III. H/o ACS in 2005. H/o PPI implantation in 2005. Risk factor of CAD: DM (+), HTN (+), DLP (-), ex-smoker, Family history (+).

**PHYSICAL EXAMINATION:**HR: 84/min. BP: 120/70mmHg. CVS- apex beat at (L) 5th ICS, S1 S2 (+).LV S3+. RS- WNL. P/A-WNL. CNS- WNL.

**BLOOD INVESTIGATIONS:** WNL

**CXR:** CTR 0.60, PPI in place with leads , calcified aneurysm wall in apex

**ECHO:** LV- 56/46, EF- 34%, SF- 16.5%, LA/Ao- 32/31, RWMA mid & distal AW entire AS, mild & basal IW, Sev hypokinetic, organized thrombus in LV apex, Mod-Sev LV dysfunction.

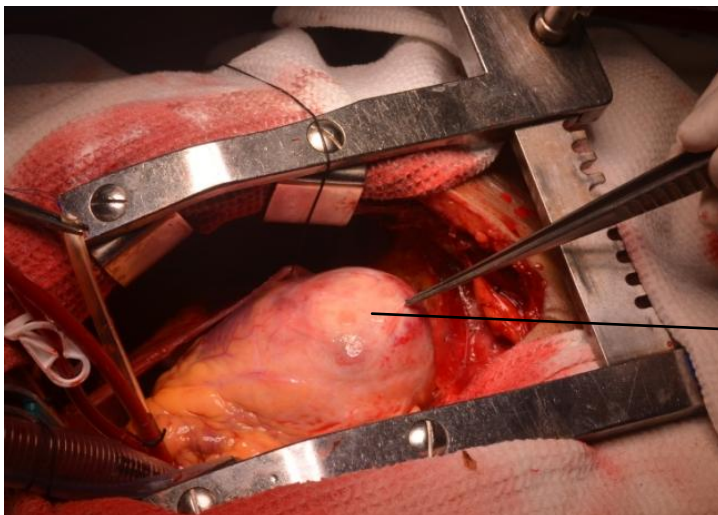
**CAG:** LMCA normal, LAD prox- 50-60%, distal total, Diagonal- D1 & D2 mild ostial disease, LCX mild 70% distal diffusely diseased, RCA chronic total occlusion proximally

**SURGICAL FINDINGS:** Aorta normal, 5x5cm True aneurysm over the LV apex with calcified clot. Moderate to severe LV dysfunction. LVEF - 20%, CO=2.3L/min, Anterolateral wall severely hypokinetic. Mild MR. Post procedure: LV function improved, EF - 60%, Improved wall motion over the anterior wall. MR 2+.

## STEPS:

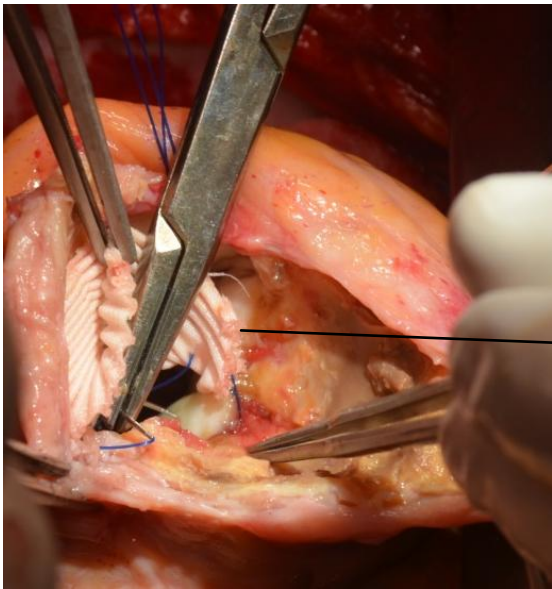
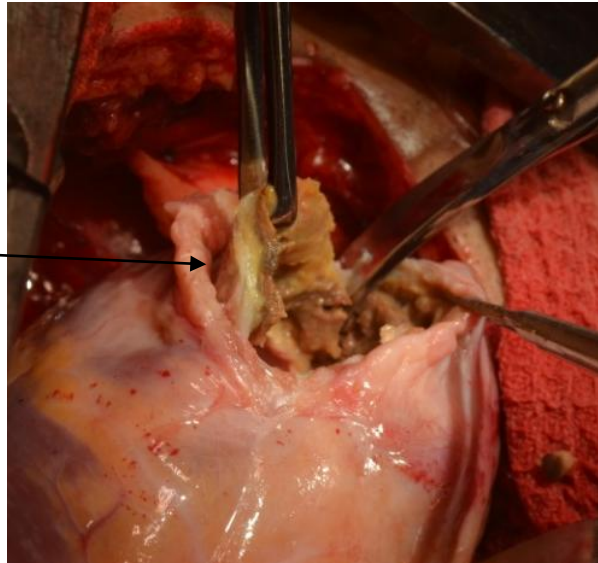
Median sternotomy. LIMA and GSV harvested. Aorto- RA CPB instituted. Aorta cross clamped. Antegrade tepid blood cardioplegia given. Heart arrested in diastole. Distal anastomoses of RSVG - Terminal OM, RPDA, RPLB and D1 done with 7-0 prolene. Soft clamp applied over the grafts. LV aneurysm opened. Apical clot removed. Purse string sutures taken at the margin of dead and viable endocardium towards the healthy endocardial side. PTFE patch fashioned according to the size of the defect created. PTFE patch sutured at the margin including the purse string sutures. The aneurysmal wall closed over the patch in three layers. LIMA - LAD anastomoses done with 7-0 prolene. De-airing done. Aortic cross clamp removed. Heart picked up in sinus rhythm. Proximal anastomoses of RSVG - Aorta done with 6-0 prolene. Grafts de-aired. Came off bypass with stable hemodynamics. Protamine. Decannulation. Hemostais secured. Sternal wound closed in layers.

**CPB** : 120 minutes **ACC**: 45 minutes.



APICAL ANEURYSM

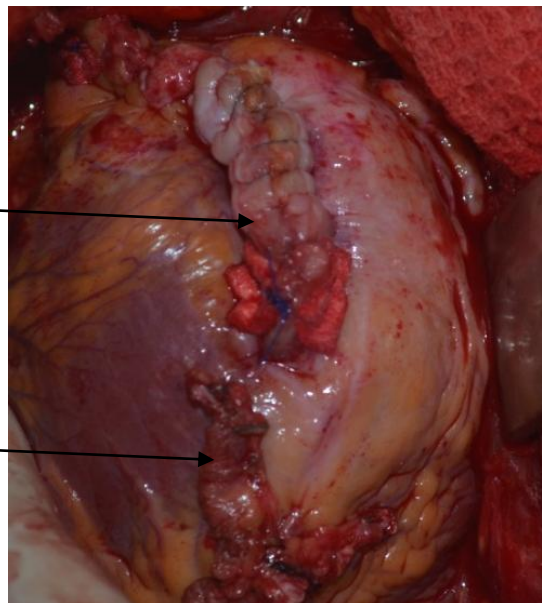
CALCIFIED ANEURYSM  
WALL EXCISION



PATCH SUTURED TO  
ENDOCARDIUM

LV MARGINS SUTURED

LIMA – LAD  
GRAFT INSITU



# **PSEUDOANEURYSM OF ASCENDING AORTA**

**DIAGNOSIS:** PSEUDOANEURYSM OF ASCENDING AORTA, P/ ICR FOR DCRV, AF(CVR), MILD RV DYSFUNCTION.

**PROCEDURE:** PSEUDOANEURYSM REPAIR

**HISTORY:** 44 years old man underwent intra cardiac repair for DCRV in 1988. H/o FC II DOE x 2 years. H/o parastrenal chest pain(+). H/o bleeding from sternotomy wound+.

**PHYSICAL EXAMINATION:** PR-70/min, irregular, BP-110/70mmHg, JVP raised. CVS-Apex 6th LICS 5cm lateral to MCL. S1(N) S2 split A2>P2. No S3.RS: WNL. P/A- Liver 7cm below RCM firm, no free fluid.

**BLOOD INVESTIGATIONS:** WNL

**CXR:** CE (+), CTR 0.80, RAE(+), RV apex Qp(N).

**ECG:** AF, CVR- 46-90/min, QRS+90', RBBB.

**CECT CHEST:** Completely thrombosed pseudo-aneurysm of the ascending aorta with a contrast filled projection of the aorta. Large mediastinal hematoma with pressure effect over the sternum. Extension of the hematoma into pericardial cavity with narrowing of right coronary artery due to extrinsic compression.

**DOPPLER AORTOFEMORAL VESSELS:** Normal Scan

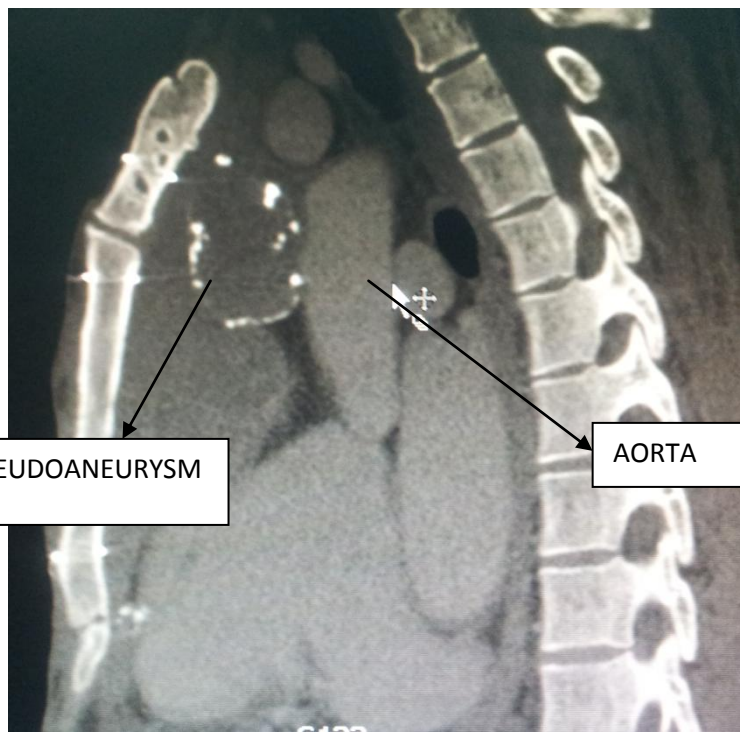
**SURGICAL FINDINGS:**

Sternum intact, all sternal wires intact. Retrosternal hematoma 8x8x8 cm. Calcified pseudoaneurysm from the ascending aorta at the previous cannulation situ. Extensive retrosternal adhesions.

## STEPS:

Left Femoro-femoral bypass established. Core cooling done upto 32 degrees. Sternal wires cut. Sternotomy done. Hematoma evacuated, Adhesiolysis attempted and abandoned in view of plastered heart to the pericardial wall. Walls of the pseudo-aneurysm excised. Pledgeted sutures placed over the previous cannulation site. Wash given with diluted betadine. Patient warmed and weaned of CPB, femoral vessels decannulated. Incision closed in layers. Sternotomy wound closed in layers.

**CPB** : 45minutes



# **SOV ANEURYSM REPAIR**

**DIAGNOSIS:** SOV ANEURYSM, INTERMITTENT CHB, SEVERE AR, DILATED LV, GOOD LV FUNCTION

**PROCEDURE:** MODIFIED BENTALL PROCEDURE + SOV ANEURYSM REPAIR

**HISTORY:** A 25 year old female, diagnosed to have SOVA with severe AR, planned for AVR was lost to regular follow up. Now presented with sudden worsening of dyspnea. Orthopnea+. No h/o chestpain / syncope/ seizures/ FND/ CCF/ PND. No significant family history.

**PHYSICAL EXAMINATION:** PR: 100/min, regular. All peripheral pulses felt. BP: mmHg. CVS - precordium normal. AI 5th ICS. S1 S2(+). PSM at apex. RS-clear. PA: liver (-). CNS - NAD. JVP: Not raised. Allen's test (-). Carotid bruit (-). PVOD (-). Varicose vein (-).

**BLOOD INVESTIGATIONS:** ESR: 90, Other parameters – WNL.

**CXR:** CTR-56% B/L lung fields normal.

**ECG:** SR, rate 90/m, ST elevation in V1-V5, First degree AV block, LBBB.

**HOLTER:** Intermittent CHB, 2nd degree AV block

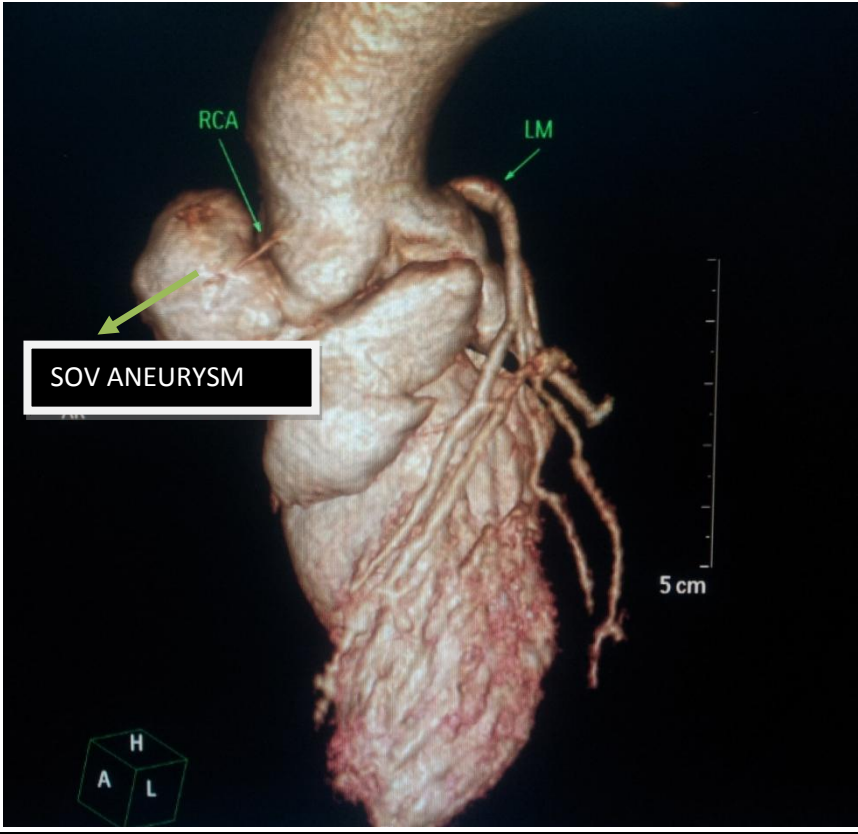
**ECHO:** LV: 54/34. EF 55%, LA: 30, Ao: 30 Ao valve annulus 23. ?inflammatory aneurysms in the peri annular region with multiple entry points, aneurysm burrowing into IVS. Aneurysm in relation with coronaries.

**SURGICAL FINDINGS:** Sternum normal, thymus. Pericardium normal. Minimal pericardial effusion. Cardiomegaly. Aorta normal. PA normal. LV dilated. Good LV function. SOV aneurysm involving the right coronary sinus extending into the IVS and jetting into the RVOT. Another aneurysm of the Left coronary sinus extending into the subannular level and presenting as a swelling below the right coronary sinus. Coronary origin normal. Good B/V function. Mild MR.

## **STEPS:**

Median sternotomy. Vertical pericardiotomy. Heparinization. Aorta cannulated just proximal to the arch. RA cannulation. CPB commenced. Left heart vented via the RSPV. Core cooling started. Aorta cross clamped. Transverse aortotomy. Aortic stays. Aortic valve excised. Aneurysm sac opening was closed below the NCC. Coronary buttons harvested. Aorta excised upto mid ascending aorta. Valve sutures placed in LV - aorta fashion. In the area of the NCC and LCC, the aneurysm wall was included in the valve sutures. A composite graft was prepared with # 21 CHVP sewed to #22 Albograft. Composite graft sutured to the aortic annulus. Left coronary button anastomosed to the graft followed by the right coronary button. Distal anastomoses between the graft and the ascending aorta done. De-airing purse string taken over the graft. Aortic cross clamp removed. Aneurysm sac closed using pledgeted sutures. Came off bypass with stable hemodynamics with optimal filling pressures. 1 RV pacing wire and one skin wire placed. Protamine. Decannulation. 2 mediastinal drain placed. Sternotomy wound closed in layers

**CPB:** 220 minutes. **ACC:** 110 minutes.



# **NORWOOD PROCEDURE**

**DIAGNOSIS:** HLHS, LEFT ATRIAL ISOMERISM, DORV, COMMON ATRIUM,SR

**PROCEDURE:** NORWOOD STAGE I + RMBTS + ATRIAL SEPTECTOMY + TRICUSPID VALVE ANNULOPLASTY

**HISTORY:** 2 days old male child, 1st born child to NC parents, delivered FTNVD, diagnosed to have CHD during evaluation for congenital diseases.

**PHYSICAL EXAMINATION:** HR: 130/min-regular. SPO2: 92%. **CVS-**precordium (N), apex in (R) 5th ICS in MCL. S1 (+). S2 single. No murmur. **RS - WNL. P/A- WNL. NAD. CNS - WNL**

**BLOOD INVESTIGATIONS:** WNL

**CXR:** CTR 0.5, BSTS normal, B/L lung fields clear

**ECHO:** SS/LC, PV'S--LA, 6.8mm, ASD-->R, AV concordance, VA discordance, 3.3 mm mid muscular VSD, IVG 52mmHg, small PDA L-->R, Lt arch, no CoA, dynamic LVOTO+.

**SURGICAL FINDINGS:** Sternum normal. Thymus +. Innominate vein normal. Left isomerism, SV of RV morphology. LV posterior to RV and hypoplastic. Normal pulmonary venous drainage. IVC to azygous continuation. Hepatic vein to RA. MPA hugely dilated, Branch PAs dilated. Ascending aorta and transverse aortic arch hypoplastic .Severe post subclavian artery Coarctation of Aorta +. Large PDA supplying DTA. Normal origin of arch vessels with adequate size. Coronary origins normal. Pulmonary valve normal. Mild PR +. Aortic valve hypoplastic. Large ASD + amounting to single atrium. TV-prolapse causing severe TR.

## **STEPS:**

Midline sternotomy. Thymus resected. Pericardium harvested & tanned. Innominate vein looped. MPA and branch PA's dissected upto hilum and looped. Aorta, arch and Neck vessels dissected and looped. PDA dissected and looped. Heparinization. A # 3.5 mm PTFE graft sutured to Right innominate artery. 8 Fr Biomedicus cannula inserted into the Innominate through the PTFE graft. RA cannulation done and went on CPB. DTA cannulated via the PDA and systemic cooling started. PDA cannula removed. PDA divided and PA end sutured. MPA divided proximal to confluence. Confluence was reconstructed with tanned pericardial patch. DTA was mobilized. Proximal two intercostal arteries were divided between clips. Arch vessels dissected and looped and clamped with vascular clips. DTA clamped and Right innominate artery clamped at the origin. Antegrade root cardioplegia given. Went on TCA with selective cerebral perfusion with flows reduced to 20 ml/kg. DTA divided proximal to the clamp. Coarctation segment excised with ductal tissue. Undersurface of hypoplastic arch opened upto STJ and the ascending aorta was divided above STJ. Proximal DTA anastomosed to distal arch which was reconstructed with bovine pericardial patch. The walls of Proximal end of MPA and the transected ascending aorta sutured and converted to a single outflow tube. Distal end of the reconstructed outflow tube anastomosed to the proximal end of reconstructed arch. DTA clamp released and arch de-aired. Came off SCP by repositioning the aortic clamp from innominate artery to the proximal reconstructed arch. Vascular clamps released from neck vessels. Gradually went back to normal whole body perfusion on CPB. Another aortic cannula inserted to the proximal arch, connected to the CPB circuit RA opened TV repair done. RA closure. De-airing done. Cross clamp removed. Innominate arterial cannula removed from the PTFE graft. The PTFE graft was trimmed and distally anastomosed to the RPA to form the RMBTS. Came off CPB with the inotropic supports. MUF done for 20 mins. Heparin reversed with Protamine. Decannulated in stages. Haemostasis achieved. Two mediastinal drains inserted. Sternum stented and wound cover given by sterile blood bag sutured to the wound margins.

**CPB:** 226+65 minutes **ACC:** 113 minutes.

# **TRUNCUS ARTERIOSUS REPAIR**

**DIAGNOSIS:** TRUNCUS ARTERIOSUS (TYPE-IV), MODERATE TRUNCAL REGURGITATION, BIVENTRICULAR DYSFUNCTION, SINGLE CORONARY, SR

**PROCEDURE:** TRUNCUS ARTERIOSUS REPAIR (# 17 PA CONDUIT) + ARCH REPAIR + TRUNCAL VALVE REPAIR

**HISTORY:** 3 days old female child, birth weight - 2.3 kg, 1st born to non consanguineous couples, was diagnosed to have CHD while evaluating for respiratory distress. H/o cyanosis on birth, Patient was intubated at local hospital & referred for further evaluation & management.

**PHYSICAL EXAMINATION:** HR: 150/min-regular. SPO2: 76%. CVS - precordium (N), apex in (R) 5th ICS in MCL. S1 (+). S2 single. 2/6 SM+. RS - WNL. P/A - WNL. CNS - WNL.

**BLOOD INVESTIGATIONS:** Serum Urea Nitrogen 40 mg%, Creatinine 2 mg/dl, Other parameters - WNL.

**CXR:** CTR > 0.5, BSTS normal. B/L lung fields clear.

**ECG:** SR HR 150/ min, RAD, RAE, RVH

**ECHO:** SS/LC, PV'S--LA, 4mm, ASD(R-->L), AV-VA concordance, Truncus arteriosus (type IV), crossed Pulmonary artery. 4 mm PDA (R>L). 8 mm subtruncal VSD, biventricular dysfunction (mild), Sev PAH, Lt. arch, mild Truncal Regurgitation., AR 2+, TR 2+.

## **SURGICAL FINDINGS:**

SS, LC, hypoplastic thymus, Truncus arteriosus (type IV) with branch PAs arising posteriorly and with type B arch interruption & LSCA from distal to interruption. Large PDA with PDA dependent distal systemic circulation. Normal systemic & pulmonary venous drainage. OSASD approx 3 mm, mild TV regurgitation, hypertrophied RV with outlet VSD 1.5 X 1cm. branch PAs small in size. Truncal Valve: Tricuspid with one sinus and leaflet hypoplastic.

## **STEPS:**

Median sternotomy. Pericardial patch harvested. Arch vessels dissected and looped. Branch PA's dissected upto hilum. PDA & proximal part of DTA dissected. Heparinization. Brachiocephalic artery and DTA (via PDA) cannulated for systemic perfusion. RA and IVC cannulated. CPB instituted. Branch PA's snugged. PDA divided. Left heart vented via RSPV. Core cooling started. DTA mobilized. First and second intercostals arteries divided between clips. Cardioplegia cannula inserted in the aortic root. Aorta cross clamped and cold blood cardioplegia given through the aortic root. Heart arrested in diastole. Common arterial trunk opened. A large button of truncal wall along with the branch PA origin was harvested. Neo MPA reconstructed with bovine pericardial patch. TCA instituted after draining the patient. DTA cannula removed. PDA along with remanant of ductal tissue excised from the DTA. Proximal part of arch along the inner curvature upto origin of innominate opened and augmented with bovine pericardial patch. DTA was anastomosed with reconstructed arch with 8-0 prolene. CPB restarted. Total Bypass instituted after deairing of aorta. Branch PA's desnugged. RV opened at outflow region and VSD closed with Gortex patch using continuous & interrupted (pledgeted) 7-0 Prolene sutures. # 17 PA conduit was thawed and trimmed. Distal end of the conduit was anastomosed with the reconstructed MPA. The proximal end of the conduit was anastomosed with the ventriculotomy over the RV. De-airing done. Aortic cross clamp removed. Heart picked up in SR. Rewarming done. PA line placed. Came off bypass with stable hemodynamics with inotropic supports. MUF done. Protamine reversal. Decannulation done. Hemostasis secured. Two atrial and two ventricular wires placed. Sternum stented & wound closed with sterile blood bag sutured to the wound margins.

**CPB:** 317 minutes. **ACC:** 210 minutes. **SCP:** 65 minutes.

# **SENNING PROCEDURE**

**DIAGNOSIS:** CCHD, DTGA, IVS, P/BAS, REGRESSED LV, RIGHT ARCH, SR.

**PROCEDURE:** SENNING PROCEDURE

**HISTORY:** 1 year old male child brought by parents with history of cyanosis. Cyanosis was detected after 20 days of birth. No h/o failure to thrive or recurrent RTI.

**PHYSICAL EXAMINATION:** Central cyanosis (+). HR-120 /min. SpO<sub>2</sub>-82% **CVS:** AI in 5th ICS, S1 S2 (+) no murmur heard. **RS:** WNL. **P/A:** WNL **CNS:** WNL

**BLOOD INVESTIGATIONS:** WNL

**CXR:** CTR- 57% clear lung fields

**ECG:** HR: 107, SR, right axis deviation.

**ECHO:** SS, LC, AV concordance, VA discordance. D- TGA. IVS. RPA/LPA-19/19mm, 8mm ASD left to right, right aortic arch+, no CoA, aorta right and anterior to PA. single coronary from sinus 2.TR 1+.

**SURGICAL FINDINGS:** SS, LC, Normal systemic and pulmonary venous drainage, RA and LA normal. Large ASD (P/BAS status). D-TGA. Aorta anterior to the PA. PA- dilated and tense. RVH+. LV regressed. Significant AP collaterals+.

## **STEPS:**

Median sternotomy. Thymus excised. Right sided pericardiotomy. Pericardial stays. Heparinization. PDA identified, ligated and clipped. Aorto- bicaval CPB instituted. Lines of incision over the LA and the RA marked. Core cooling started. Cardioplegia cannula inserted in the aortic root. Aorta cross clamped. Antegrade cold blood cardioplegia given. Heart arrested in diastole. LA opened along the planned line and vent inserted. RA opened. Septal flap created by suturing a sized goretex patch to the posterior wall of the LA along a line midway between the LAA and the pulmonary venous openings. CS was cut open . The second layer was created by approximating the posterior layer of the RA to the remnant of the IAS completing the systemic venous baffle. CS was included in the systemic venous baffle. Caval snuggers removed. Third layer (pulmonary venous baffle) was completed using a bovine pericardial patch approximating the posterior layer of the LA and anterior layer of the RA. Deairing done. Aortic cross clamp removed. 2RA and 2 RV pacing wires placed. Came off bypass in stable hemodynamics. MUF done. Protamine. Decannulation. Hemostasis checked. One right pleuromediastinal drain and one mediastinal drain placed. Sternotomy wound closed in layers

**CPB : 180 minutes ACC : 139minutes**

# **INTERRUPTED AORTIC ARCH**

## **RECONSTRUCTION**

**DIAGNOSIS:** ACHD, SITUS INVERSUS, DEXTROCARDIA, TYPE A INTERRUPTED AORTIC ARCH, MULTIPLE VSD, SEV PAH, RIGHT ARCH, SR, CCF

**PROCEDURE:** AORTIC ARCH RECONSTRUCTION + BOVINE PERICARDIAL PATCH CLOSURE OF SA VSD, DIRECT CLOSURE OF MID MUSCULAR VSD

**HISTORY:** 10 days old child detected to have heart disease at the age of 7 days on evaluation of feeding difficulty.

**PHYSICAL EXAMINATION:** HR:154/min, CVS: Precordium – normal. Apex- 5th LICS at MCL, S1 S2 (+), S2 Split (+), ESM Grade 3/6.  
**RS:** WNL P/A: WNL CNS:WNL

**BLOOD INVESTIGATIONS:**Normal

**CXR:** Situs Inversus, Dextrocardia, Cardiomegaly+, Pulmonary plethora present.

**ECG:** SR @ 150/min, QRS axis +30

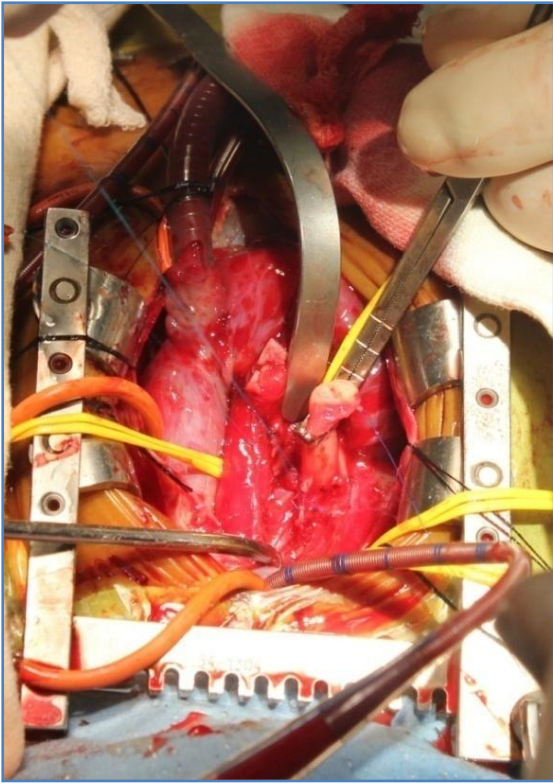
**ECHO:** LV 15/9, LA/Ao 14/8, Situs inversus, Dextrocardia, Normal venous drainage, AV- VA concordance, SA VSD(4.5mm), IVG 15 mmHg, Mid muscular VSD(3.5mm), Right Arch, PDA with bidirectional shunt, Interrupted arch after Right SCA. MR 1+, TR1+.

**SURGICAL FINDINGS:** Situs inversus, Dextrocardia. Mirror image relation of Great arteries. Systemic veins draining into Left sided atrium (Morphological RA). Pulmonary veins draining into right sided atrium (Morphological LA). No ASD/ PFO. MV,TV normal. SA VSD of size 1 x 0.5 cm. Multiple muscular VSD's present. PA dilated and moderately tense. Right aortic arch, with mirror image branching. Type-A Interrupted Aortic Arch. DTA circulation provided by a large PDA, which continues as DTA.

## **STEPS:**

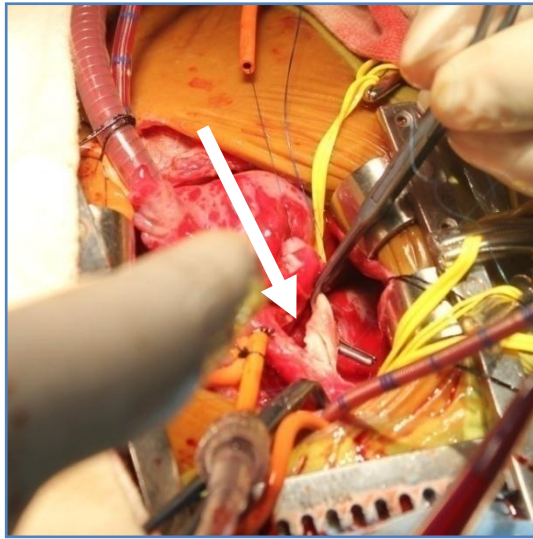
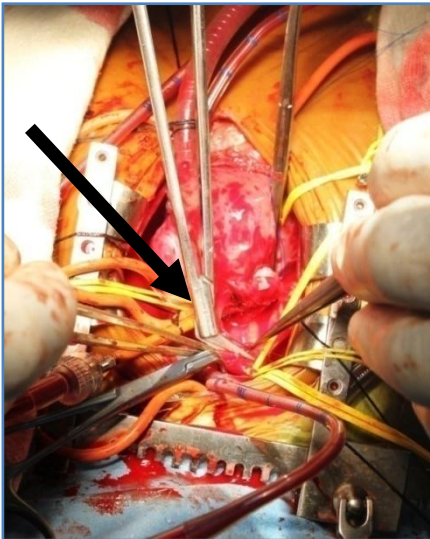
Standard midline sternotomy. Ascending Aorta, Aortic arch and branches, MPA and Branch PAs dissected and mobilised. PDA and DTA mobilised. Both branch PAs looped. Left brachiocephalic Artery and RA cannulated and went on partial bypass, keeping the branch PAs snugged. MPA cannulated and connected to the arterial line. Vent inserted to morphological LA through LSPV. DTA mobilised. MPA decannulated. DTA clamped. PDA suture ligated and divided. Cardioplegia cannulation done. Cross clamp applied proximal to Left Brachiocephalic cannula, for selective cerebral perfusion and tepid blood cardioplegia delivered via aortic root. Heart arrested promptly in diastole. Another clamp applied distal to Cardioplegia cannula, and the root vented via cardioplegia cannula. Right common carotid artery and Right Subclavian Artery kept snugged. Arch incised at the interruption and the distal open end of DTA anastomosed to this incision. DTA clamp released, properly deairing the aorta. RA cannula pushed into SVC. IVC cannulated and connected to the venous line. Went on total bypass. Morphological RA opened. Bovine pericardial patch closure of SA VSD done, using interrupted Prolene sutures. Muscular VSDs closed using pledgetted prolene sutures. 2 mm PFO created. RA closed in single layer. Heart deaired and Aortic clamp released. Came off CPB with support of Dobutamine 5 mcg/kg/min, once rewarming is complete. Decannulation done. Hemostasis achieved. Sternum kept open and covered with membrane.

**CPB Time:** 265 minutes. **ACC Time:** 120 minutes.



—————→ DTA

**MOBILISING DTA**



**ARCH INCISED AT THE INTERRUPTION AND DTA IS BEING ANASTOMOSED TO THE ARCH INCISION**

# **RASTELLI PROCEDURE**

**DIAGNOSIS:** CCHD, DTGA, SP VSD, SEVERE PS, STRADDLING MV, ASD, CONFLUENT PA's, SR, NC

**PROCEDURE:** RASTELLI PROCEDURE (# 21 PA HOMOGRAFT), PFO OPEN.

**HISTORY:** A 3 year old male child, 3rd in birth order born to non-consanguineous couple was brought with history of cyanosis since 4 months of age. No h/o cyanotic spell.

**PHYSICAL EXAMINATION:** Central cyanosis (+). HR: 111bpm. SpO2- 71%. **CVS:** Precordium – normal. AI 5th ICS Left lat to MCL. S1 S2- (+) 4/6, ESM in para-sternal area. **RS:** WNL **P/A:** WNL. **CNS:** WNL.

**BLOOD INVESTIGATIONS:** WNL

**ECHO:** LV- 27/15, EF- 79%, PW- 7/9, Septum- 7/10, FS- 42, Confluent PAs, RPA- 5.4, LPA- 5.2, SS. LC, OS ASD (B/D), AV concordance, VA discordance, LVOTO gradient 100mmHg (SV level), Sp VSD, No PDA, Left arch.

**SURGICAL FINDINGS:**

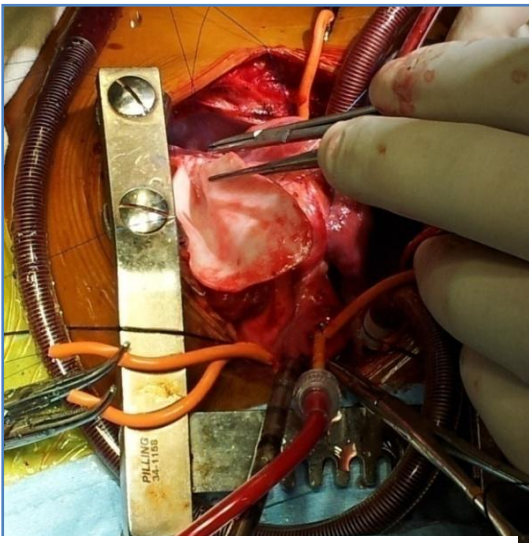
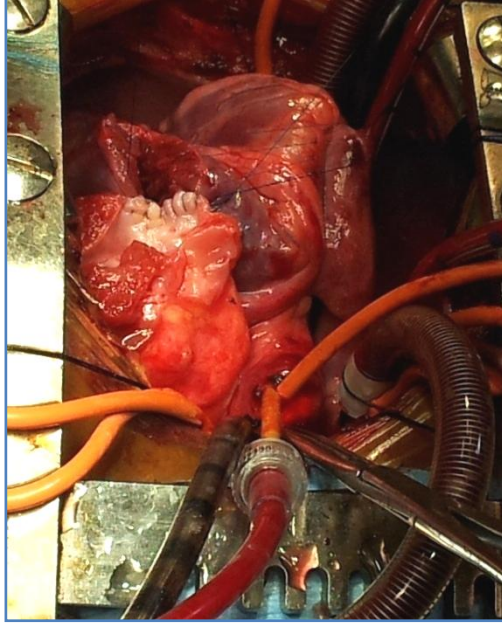
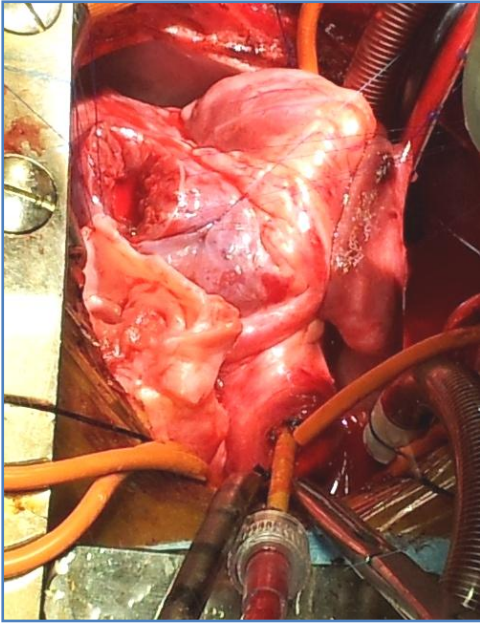
SS, LC, normal PV and systemic venous drainage, AV concordance, VA discordance. Aorta arising from RV and anterior to PA. PA arising from LV. PDA +, MPA and branch PA's are of adequate size, Sub-valvar PS+, coronaries normal (1LCx, 2R), OS ASD (~9mm x 5mm), large subpulmonic VSD. Straddling MV with papillary muscle attached to RV side of septum. TV normal. A large conal branch crossing RVOT.

## **PROCEDURE:**

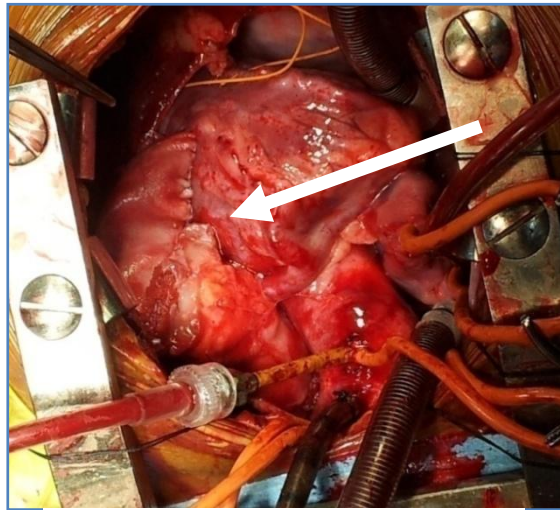
Median sternotomy. Thymus excised. Pericardial patch harvested and tanned. Branch PAs dissected upto hilum on both sides. Aorto – bicaval CPB instituted. PDA ligated and clipped. Left Heart vent put via RVSP. Core Cooling started. Cardioplegia cannula inserted, Aorta cross clamped. Cardioplegic arrest achieved. RA opened parallel to the AV groove. RVOT opened lateral to conal artery and anatomy assessed, Accessory chordae of MV from IVS excised. Hypertrophied conal septum excised. Goretex patch fashioned. Sub pulmonic VSD rerouted to aorta with goretex patch through RV incision. Intermittent pledgetted sutures used to suture the patch under tricuspid annulus and near aortic annulus. PA divided at confluence, cardiac end sutured in 2 layers.#21 Pulmonary valve conduit sized and fashioned as RV-PA conduit. Posterior layer of anastomosis of conduit to RV done with 5-0 prolene. Anterior layer augmented with BPP. Rewarming started. ASD closed with tanned pericardial patch. PFO left open. RA closed in single layer. De- airing done. Aortic cross clamp removed. Heart picked up in sinus rhythm. 2 atrial and 2 ventricular pacing wires taken and atrial pacing started. Came off CPB with stable hemodynamics. Protamine. Decannulation. Hemostasis achieved. Sternotomy wound closed in layers.

**CPB** : 245minutes **ACC**: 220 minutes.

**HOMOGRAFT BEING ANASTOMOSED TO RVOT INCISION**



**BOVINE PERICARDIAL PATCH  
AUGMENTATION OF ANTERIOR WALL**



**COMPLETED ANASTOMOSIS**

# **CONE REPAIR**

**DIAGNOSIS:** EBSTEIN ANOMALY OF TV, SEV TR, NO ASD, SR

**PROCEDURE:** ONE AND A HALF REPAIR(CONE REPAIR+ BDG)

**HISTORY:** 44 year old female, K/c/o Ebstein anomaly of tricuspid valve, diagnosed to have CHD at age of 9 years of age.

**PHYSICAL EXAMINATION:** PR: 75/min. BP: 130/180mmHg. **CVS:** precordium normal. AI – 5<sup>th</sup> ICS in MCL. S1 S2 (+) **RS:** WNL **CNS:** WNL  
**PA:** WNL

**BLOOD INVESTIGATIONS:** WNL

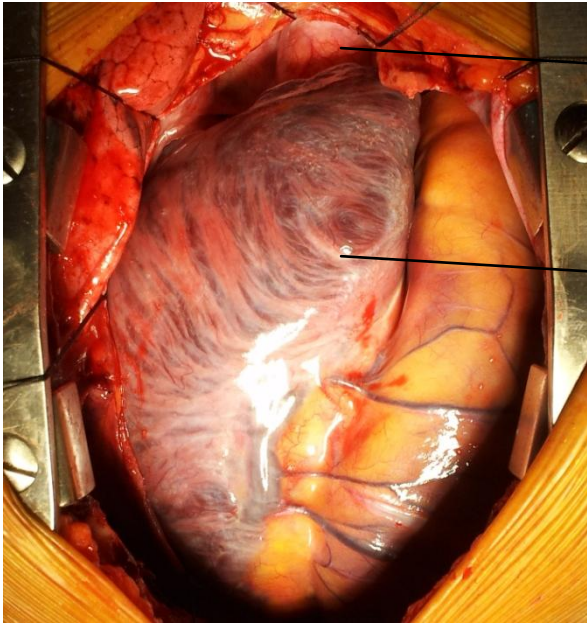
**ECHO:** SS, LC, LV- 32/28, AVVA concordance (+). Ebstein anomaly of TV, RA/RV dilated, good sized PA , no VSD, Aorta- right and posterior, 21mm ASD (BDS), STL displaced 40mm ATL restricted movements, fair RV function, RSVP 16 + RA. AV 1.2m/s, PV 0.8m/s, TVS 15.8m/s, Lt arch, no CoA, Peak PR-13mmHg. TR 4+.

**SURGICAL FINDINGS:** Sternum normal. Thymus+. Innominate vein+. SS, LC, AV-VA concordance. NRG. Ligamentum arteriosum+. Aneurysmaly dilated RA. Normal epicardial coronary pattern. Hypoplastic, severely underdeveloped and displaced septal leaflet. Flail Anterior leaflet of TV. Fenestrated anterior leaflet of TV. 1x1 cm OS ASD+. PFO+. IVS.Huge portion of the RV thin and atrialized. Hypoplastic and underdeveloped RV. Good LV function.

## **STEPS:**

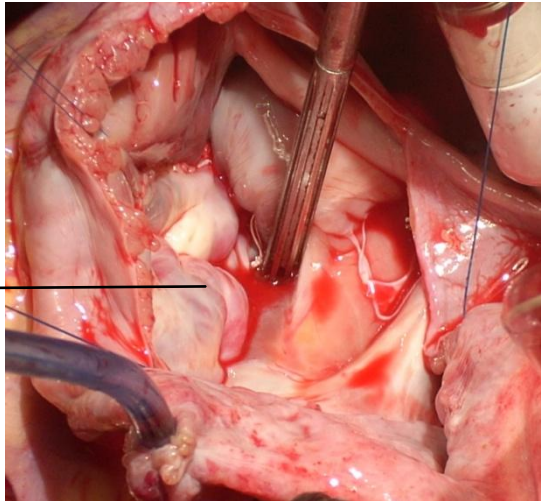
Median sternotomy. Pericardial patch harvested. Aorto- RA cannulation and partial bypass instituted. SVC dissected beyond the Azygous communication. Azygous vein transfixed and divided between ligatures. MPA dissected free from aorta. RPA dissected upto first lobar branches and looped. Bicaval cannulation and connected to CPB circuit. Cooling started. RSPV vent was inserted and Left heart vented. RA decannulated. SVC and IVC looped. Cardioplegia cannula inserted in the aortic root. Aorta cross clamped. Antegrade cold blood cardioplegia given. Heart arrested in diastole. SVC and IVC snugged and went on total bypass. RA opened. RA stays taken. Remnant of STL delaminated from the RV. Anterior leaflet of the TV was delaminated from the RV. Neo commissure was created by suturing the adjacent margins of the ATL and STL. Atrialized portion of the RV was plicated with 5-0 prolene. The cone of the TV was sutured to the native tricuspid annulus using 5-0 Dacron suture. TV annulus was sized. TV annuloplasty was done with #32 MC3 Ring using 4-0 prolene sutures. ASD closed by direct closure. PFO closed by direct closure. Redundant part of the RA wall excised. RA closed in single layer using 6-0 prolene. Deairing done. Aortic cross clamp removed. Root vented. Heart picked up in Bradycardia. 2 RV pacing wires taken and pacing started in VVI mode. Marking sutures placed in the RPA. SVC transected at the SVC- RA junction. RA end of the SVC closed by overrunning sutures of 5-0 prolene in two layers. Side biting clamp applied over the RPA. Pulmonary arteriotomy made. End to Side anastomoses of SVC - PA done using 4-0 maxon sutures. Side biting clamp over the PA released. RSPV vent removed. 2 RA pacing wires placed and heart paced in DDD mode. Came off bypass with inotropic supports. Protamine. Decannulation. Sternotomy wound closed in layers.

**CPB** : 180 minutes **ACC**: 120 minutes.

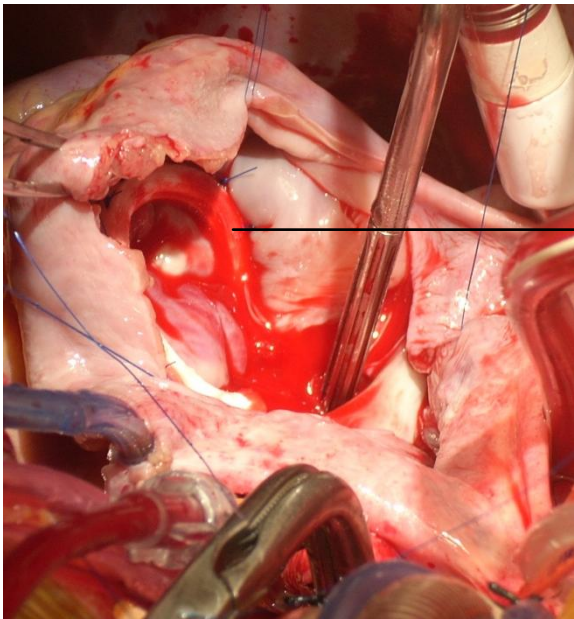


AORTA

ANEURYSMAL RA



COAPTING TV LEAFLETS  
AFTER CONE REPAIR



TV ANNULOPLASTY RING