

CARDIOLOGY & CARDIO VASCULAR THORACIC SURGERY DEPARTMENT (CVTS)

The CVTS department is well equipped catheterization lab and cardiac OT along with all latest machineries to provide tertiary health care to all cardiac patients coming from different railways & it is functioning excellently since 2012 and touched many milestones in Indian railways over last few years.

Our DSA machine is one of the best and latest model machine available in India and it was the second such machine in Mumbai when it was installed. It has facilities for coronary and peripheral angiograms & angioplasties facilities with 3D facility and having additional CT scan facility which we utilize in emergency particularly in CVA patients to rule out cerebral bleed in emergency.

Our lab has facilities of IVUS, rotablator, injector,FFR ,and latest real time stent boost for proper deployment of stent and it is equipped with latest electro physiological study & radiofrequency ablation machineries.

Our cardiac OT is one of the well-equipped OT in the city and all the latest surgical accessories are there to deal any complex cardiac surgery with facilities of ECMO,TEG,CELL SAVER etc.

Non Invasive Cath lab -The echo machine which was there in the cath Lab at present is out of order. We are processing for the high end echo machine having facility of 2D and 3D echo which is at the final stage of tender. We have procured a high end portable echo which will be operational soon. Other than trans thoracic echo we have a facility of TEE, dobutamine stress echo, holter monitoring, carotid Doppler, ambulatory BP monitoring etc for both adults and children etc.

STAFF:

IRMS-

Dr.M.VReddy,ACHD, Cardiologist
Dr Shishir Kumar Roul.ACHD, Cardiologist
Dr Avinash Arke, Sr DMO, Cardiologist
Dr Chandrashekhar Yadav,DMO, Cardiologist
Dr Suvendu Panda , ADMO , cardiac anaesthesiologist

Visiting Consultant:

Dr Harish Mehta (Cardiologist)
DrAjitMenon (Cardiologist)
DrNimit Shah (Cardiologist)
DrBehranwala (CVT Surgeon)
DrUmbarkar (CVT Surgeon)
Dr Sujit Jana (CVT Surgeon)
DrAmeyaUdaywar (Electrophysiologist)
DrDarshanJhala (Electrophysiologist)
Dr HemantDeshmukh (VascularInterventionist)
Dr Rahul Seth (VascularInterventionist)
DrMlinidPhadake (Paediatric Cardiologist)
DrBhusan (Paediatric Cardiologist).
Dr Kamlesh Jain (CVTS surgeon)

DNB(NBE) trainee ,Cardiology -2

Sr.Residents:

Medicine- 3

Anaesthesia -3

Surgery- 3

Work load/Annum(average)

OPD-18000.

IPD-4000

Cardiac intervention– 1800

Cardiac Surgeries –300

PAMI (primary angioplasty in MI)- 75

EVLT/Sclerotherapy – 150 cases

ECHO and others -6000

CATH LAB

Services offered

Cardiology:

Coronaryangiography/angioplasty,ROTA,LITHOTRIPSY,IVUS/FFR,EPS/RFA,Pacemaker,ICD, CRTD,CRTP Peripheral angiography and angioplasty, (renal, mesenteric upper and lower limb vessels), IVC filter insertion, Cerebral DSA,ASD/VSD/PDA device closure,EVLT, cerebral Aneurysm Coiling, Aortic Graft Stenting, IVC Filter, local Thrombolysis, Perma Catheter insertion,Embolization,TIPS, Sclerotherapy, Pericardiocentesis. Alcohol ablation for HOCM

CVTS:

Coronary artery bypass grafting, valve repair and replacement, AV fistula creation and repair, aortic aneurysm repair and grafting, pericardectomy,myectomy, peripheral vascular bypass grafting,surgical removal of intra cardiac tumor,surgical correction of ASD/VSD/PDA, epicardial pace maker insertion.Myectomy for HOCM.

Work load

CVTS SURGERIES

SR NO	NAME OF PROCEDURE	2018	2019	2020 (COVID)	2021	2022 (31/3/22)	TOTAL since installation
1	CARDIAC	220	177	33			1064
2	NON CARDIAC	51	44	8			247
	TOTAL	271	221	41			1311

STATISTICS OF CASES-CATHLAB							
S N	Name of the Procedure	2018	2019	2020 (COVID)	2021	2022 (31/3/22)	TOTAL since installation
1	ANGIOGRAPHY	1057	925	179			5129
2	ANGIOPLASTY	280	345	62			1892
3	CEREBRAL DSA	44	32	6			220
4	CEREBRAL STENTING	0	0	0			2
5	CAROTID STENTING	4	6	0			28
6	PERIPHERAL DSA	83	82	10			358
7	PERIPHERAL STENTING	16	19	4			139
8	ABDOMINAL AORTA GRAFT STENTING	2	0	0			4
9	POBA	32	26	5			124
10	DRUG ELUTING BALLOON PLASTY	7	8	5			31
11	PERIPHERAL THROMBOLYSIS	12	6	2			84
12	IVC FILTER	1	0	0			14
13	RENAL DSA	1	4	2			15
14	RENAL STENTING	1	6	1			17
15	EMBOLISATION	10	8	2			47
16	EVLT	38	32	6			188
17	ENDOVASCULAR GRAFT STENT	0	0	1			2
18	TAVI	0	1	0			1
19	PPI	15	17	5			100
20	CRTD/CRTP/ICD	3	9	1			30
21	ASD	2	3	0			11
22	BMV	2	4	0			12
23	EPS/ABLATION	22	20	5			132
24	OTHERS	98	211	47			532
	TOTAL	1730	1764	346			9135

ASSETS

Hemochrom Monitor Model 401

Hypo-Hyper ThermiaMachine "GAYMAR" USA

ETCo2 module & CO2 transducer & adult adaptor for philipsmultiparameter monitor 1no

Central monitor & multiparameter "PHILIPS"

Puritan Bennett SHO Ventilator

Page water ECG machine-02nos

Fully automated coagulation analyser "CA550" "TRANSESIA"

Computerisal radiography system CR 30x Digitizer "AGFA"

Steri Air ultima air purification &furigation system 04nos

Steri Gen Disinfectant Generation System-1no

Medtromic single & dual chamber temporary paramatar 2nos

Computerigeal blood gas electrolyte system model-ABL800 Analytical automation

2D echo cardiography machine

Mobile C-arm Image intensifier "Allenger- HF49R"

Multi Mobile X-ray machine model-OPEL-15R/SBM "ALLENGERS"

DVT pump 4nos "kendall" USA make

PurtableColour Doppler unit " GE vivid I" wipro GE

Ventilator universal for adult/Padiatric/Neonate 5nos PB840 "Priomerlion system"

Thromboelastograph coagulation analyser "FramarPriomulica" model

V2020 Sluice Macerator Unit "Vernacare UK"

ACT machine-mini-02nos

Space work station with 4 syringe infusion pumps-2nos

Rapid infusion system "Belmont FSM 2000"

ECMO & Life support system

DSA cathlab with accessories 01 pc

Plasma sterilizer-100 NX

Anesthesia work stations

Automated blood & body fluid analyser

Heart lung machine with accessories

Intra aroticballon pump

Multichannel patient monitoring system with accessories "PHILIPS"

Electrohydraulic operating table with accessories

Defibrillator with Accessories (philips MRX)
Electro-caurtery machine
Haemodialysis Machine RO water plant
Ceiling mounted surgical pendant system
Table top flash sterilizer
Dryer module of water disinfectant
zollautopulse cardiac support pump
Hot and cold steam sterilizer
AED with CPR feedback machine
Washer disinfector for human waste
Sternum redo saw with attachment
High speed steam sterilizer & Eto gas sterilizer machine
Adult ventilator & Neonate ventilator
8 channel monitor with large slave
Air assisted patient transfer device
paediatric ventilator
EVRF generator with attachment
Operating microscope ophthalmic
Holter monitor with record analyser
Washer disinfector machine

ACHIVEMENTS

*We have so far done about **12000 cardiac intervention** in cath lab and about 1500 surgical procedure with a better outcome in comparison to universal data so far as mortality and morbidity are concerned. When we compare this data with zonal hospital at Kolkata we are having around 40 % more work where there are 3 cardiologists and when we compare with Perumbur hospital we are having similar our work load where there are 6 cardiologists.

*We are providing primary angioplasty in myocardial infarction (PAMI) facility round the clock to the patients who suffer from massive heart attack and we have done it successfully in around 100 patients over last 2 years. Our door to balloon time is on around 45 minutes against the internationally target time 60 minutes. Over last 2 years NOT a single patient was subjected to thrombolysis neither in our hospital nor in Zonal hospital, CR.

*We are doing all types of coronary interventions like complex coronary intervention which includes left main disease and bifurcation and trifurcation coronary lesions, Rota ablation for calcified lesions. For last 5 years we have not referred a single patient outside for coronary intervention.

JRH is the FIRST cardiac center in Indian railway to perform Trans Catheter Aortic Valve Replacement in a very high risk aortic stenosis patient. We are also FIRST in doing a ROTATRIPTY procedure in Indian railway on 3.3.22.

***For the first time in Indian railway the organs retrieval for organ transplant was done in our hospital which was initiated and organized by cardiologists JRH.**

From June 2019, super specialty course (DNB cardiology) is accredited in CTVS department .

FOR THE FIRST TIME WE HAVE CONDUCTED DNB CARDIOLOGY FINAL EXAM ON 27.8.2020 SUCCESSFULLY.

*We have 5 live telecast of interventions nationally and internationally(USA) and for the first time in the history of Indian railway we had live telecast of complex angioplasty in INDIA LIVE and NIC in the month of March and April respectively.

*Many national and international cardiologists have visited our cath lab and performed complex cardiac intervention in our lab.

*We have been successfully doing CTO (chronic total occlusion) workshop in our lab with cardiologists from **JAPAN and NEWYORK** and from various parts of INDIA..

*Even if we don't have in house cardiac surgeon still we are doing all types of cardiac surgery and we have done around 1200 cardiac procedure successfully with complication rate lower than other hospital in the city.

*Recently we have trained more than 100 RPF staffs of central and western railway to provide first aid to sudden cardiac arrest people which was highly appreciated many medias.

* Along with coronary interventions we also are doing all other vascular interventions and We have done more than 400 EVLT and RFA for chronic veinous disorder.

*we are doing all the non invasive procedure around 1200 per month without keeping any case pending for next day.

Dr MV Reddy has done many complex coronary interventions and also doing peripheral procedure successfully. He has shared many national and international conferences and presented many papers and was awarded in many occasions.

Dr MV Reddy has awarded best paper presentation at NIC conference at NEW DELHI 2018.
Dr MV Reddy has awarded with railway board and GM award during his railway carrier.

He is also involved in academics and is a teacher for DNB(general medicine)DNB (CARDIOLOGY) students at Jagjivan Ram Railway Hospital since 1996

SPECIALIZED TRAINING done in

1. Cardiovascular angiography and interventions
2. AMI course and complex bifurcation stenting work shop

SCIENTIFIC lecture on:

1. Renal interventions in renovascular hypertension.
2. Pre operative evaluation of cardiac patients for non cardiac surgeries
- 3 .peripheral arterial embolization at international periperal vacular inter ventions
4. Below knee interventions participated in many national and international conferences presented cases and topics and received best paper award at national interventional meeting at new Delhi .

PAPERS AND CASES PRESENTED

INTERNATIONAL CONFERENCES

1. THERMAL ABLATION OF CHRONIC VENOUS DISORDERS- CARDIOLOGY CONFERENCE MUSCAT
2. BALLOON UNCROSBALE LESIO IN CTO AT SINGAPORE CTO CONFERENCE 2018
3. VENOVENOUS LOOP FOR LEFT VENTRICULAR LEAD PLACEMENT AT APRHS. 2019-BANGKOK
4. COMPLICATION CASES - STRIP EACH ORHER AT Gulf PCR 2019. AT DUBHAI
5. BALLOON ASSISTED REMOVAL OF ANCHOR WIRE IN SZABO TECHNIQUE SING LIVE 2020 - SINGAPORE
6. STENT RETRAVEL WITH INDIGENOUS SNARE AT SINGAPORE LIVE 2020
7. Balloon uncrossable CTO at singapore CTO-2019

NATIONAL LEVEL

paper presentations on:

1. Relook at diagnostic criteria on aortoarteritis
2. Interventions in aortoarteritis.
3. Endovenous laser ablation of varicose veins
- 4-10TH Asia Pacific Vascular Intervention Course-
Interventional therapy for acute DVT.

JOURNAL -PUBLICATIONS

- 1)THERMAL ABLATION OF CHRONIC VENOUS DISORDERS **baoj medical & nursing**
- 2)Perioperative myocardial infarction in a case of mitral valve replacement – rare complication of a common procedure – **Journal of Indian College of Cardiology.3rd December-2019**
- 3)Aggressive emergency interventional management in a case of intra operative massive pulmonary embolism- **Journal Indian college of cardiology- January to march 2020.**
- 4)Successful use of venovenous snare to fix wire in collateral vein for proper placement of the left ventricular lead during cardiac resynchronization therapy, a case report- **European society of cardiology April 2020**

Dr Shishir Kumar Roul is an emerging cardiologist who has performed many complex coronary including left main intervention,bifurcation angioplasty, CTO,ROTA TRIPSY,device implantations

and peripheral interventions in a short period of time. He has attended many national conference targeting CTO interventions, ROTA ablation and bail out technique in coronary interventions.

Dr Shishir has performed FIRST ROTATRIPSY procedure at JRH (which is also FIRST in Indian railway) in a severely calcified coronary artery which is the most advanced and skillful technique in the field of cardiology.

His special interest is to implement PAMI programme in JRH and has been successfully over last 3 years and achieved door to balloon time less than 40 minutes. He has set a rare example by opening an totally occluded artery of a patient who has major heart attack with door to balloon time just 14 minutes.

Dr Shishir has shared some conferences as national faculty and has delivered many lectures in national conferences. He was invited as a national faculty in renowned NIC conference held in Mumbai in the year 2019. He is guide and co guide of residents of DNB medicines and cardiology.

Dr Shishir has awarded with **Railway Board award** and **GM/WR award** for providing quality best, cost effective and guidelines based treatment to all railway beneficiaries and for efforts in working with RAJBHASHA.

Dr Shishir has associate fellowship from European Society of Cardiology. Dr Shishir is also an associate member of American college of Cardiology.

Dr Shishir has bagged the FIRST PRIZE AWARD among all cardiologists in Mumbai in a case presentation competition.

SPECIALIZED TRAINING done in

1. Cardiovascular angiography and interventions
2. AMI course and complex bifurcation stenting work shop
3. Bailout tips and techniques during PCI.
- 4- Latest update in physiological study of coronary plaques

Research article-

Study of prevalence, etiology, clinical features and treatment of patient admitted at Northern Railway central Hospital- 2009-12

Prognostic significance of atrial fibrillation in patient with heart failure-2014-17

Publication in National and international journal

- 1) Perioperative myocardial infarction in a case of mitral valve replacement – rare complication of a common procedure – Journal of Indian College of Cardiology. 3rd December-2019
- 2) Aggressive emergency interventional management in a case of intra operative massive pulmonary embolism- Journal Indian college of cardiology- January to march 2020.
- 3) Successful use of venovenous snare to fix wire in collateral vein for proper placement of the left ventricular lead during cardiac resynchronization therapy, a case report- European society of cardiology April 2020.

4) **RANDOMISED CONTROL**

EFFICACY AND SAFETY OF REMDESIVIR IN INDIAN PATIENTS WITH MODERATE TO SEVERE COVID-19: RESULTS FROM THE OPEN LABEL PERIOD OF A PHASE II, RANDOMIZED CONTROLLED TRIAL- January 2022. [International Journal of Scientific Research](https://doi.org/10.36106/ijsr/8408067) -DOI:10.36106/ijsr/8408067-AS PRINCIPAL INVESTIGATOR

Presentation

- NATIONAL- Oral case presentation (rare and interesting case) PIGGY BACKING OF STENT at INDIA LIVE on 29th February 2020 at Delhi.
- Presentation in Many National and international forums.
- Live CASE performer in India LIVE and Mumbai Live.

Scientific lectures on

- 1- Chest pain to AMI-National nursing conference, railway chapter, NAIR on Feb 2019
- 2- Basic ECG- Anaesthesiologist conference, Mumbai –April 2019
- 3)- ACS, arrhythmia after MI-All India Physician conference,railway chapter,JRH Dec 2019
- 4)

Dr shishir has participated Many national and international conferences and also has shared chairs as panellist in some of them.

FUTURE PLAN

- Doing TAVR regularly
- Performing all paediatric interventions/ surgeries
- OCT machine installation and performing OCT guided coronary intervention for better clinical outcome.
- Performing Transcatheter Valve replacement.
- Minimal invasive surgical approach for valve replacement / CABG .
- Plan for Robotic cardiac intervention and surgery/ventricular assist surgery(LVAD/RVAD)
- To focus JRH at national and international level.
- To start LASER procedure for severely calcified lesions.

ASSISTANCE REQUIRED

Full time cardiac surgeon and cardiac anesthesiologist.
One perfusionist.

